HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

[Medical Lib]

Is It Cancer?

Football Hero—Ten Years After

The Bedside Test

Syphilis—The Unfortunate Disease

Lessons in Relaxation

Are Modern Parents Failures?

Injuries to the Jaws

Alice in Slumberland

March, 1931

25 Cents

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Contributors to This Issue

DR. IRA S. WILE, the child psychologist, rises to the defense of modern parents. DR. J. H. J. UPHAM, a practicing physician and a member of the board of trustees of the American Medical Association, sounds a warning against pneumonia as an enemy of the human race.

DR. R. R. SPENCER has been engaged in research at the National Institute of Health (formerly the Hygienic Laboratory) for the last eight years, and last year won the gold medal for the best scientific exhibit at the American Medical Association convention. The college athlete—ten years after—is pictured by DR. HENRY PLEASANTS, JR., in a readable sketch in this issue. Dr. Pleasants is an Eastern physician and was the author of "The Lost Battalion," recently published in HYGEIA. Aunt Paisley returns in the story by LUCRETIA PENNY, and philosophizes on doctors.

DR. DON C. LYONS, a dentist, has written a series of articles on the care of the mouth. The Hollywood eighteen day diet has been analyzed by FRANCES B. FLOORE, director of dietetics at a large Chicago hospital, and found sadly lacking. Summer will soon be on us and it is time to think about camps. ABRAHAM MANDELSTAM, a camp director, tells how the boys' health is safeguarded in a Maine camp. LOUISE P. ST. JOHN, author of "The Bedside Test," is from Tennessee.

The ravages of syphilis are discussed by DR. A. LEE BRISKMAN, resident physician in a large home for aged and disabled workers in the West. The author of the new series, "Lessons in Relaxation," is familiar to HYGEIA readers; DR. THURMAN B. RICE is a member of the department of bacteriology and pathology of Indiana University School of Medicine and Hospitals. RUSSELL BURKHARD is a member of the public school staff at Newton, Mass.

DR. ROBERT KILDUFFE, who writes on the diagnosis of cancer, is connected with the laboratories of an eastern city hospital. Diet for the expectant mother is the subject of DR. EDWARD LYMAN CORNELL'S article this month. For the April issue he will write on the preparation of the baby's clothes.

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Indicators of Medical Progress

THE history of progress in the field of medicine reveals that any epoch-making discovery leads promptly to new discoveries along similar lines. The establishment of a distinctive method for the isolation of an unusual product by one investigator prompts numerous other workers in research to intensive activity with similar methods leading to astounding results. The original worker is apparently a man of fine imagination and reasoning ability who points the way for trained workers of perhaps lesser imagination. These might never have accomplished their discoveries had not the pioneer mapped the road.

One of the fields in which discoveries of importance have been made by medical investigators during the last decade is the isolation of products from the glands of internal secretion. When administered for deficiency of secretion, these substances enable persons who would promptly die to have added years of useful life.

INSULIN was developed in 1922 by Banting, Macleod, Collip and Best, and numerous other discoveries followed. True, the substance epinephrine had been isolated previously from the adrenal gland, and extracts had been made from the thyroid gland which were useful in meeting the deficiency of thyroid secretion in the human body. A considerable period had intervened, however, between these discoveries and the isolation of insulin. Since that announcement, the product called parathyrin has been developed from the parathyroid gland and a new extract has been made from the cortex of the adrenal glands. The extract from the parathyroid glands is intimately associated with the control of calcium in the body and thereby with the treatment of such convulsive disorders as tetany and spasmophilia. Valuable substances have been found in the pituitary and the ovary. In the absence of the secretion of the adrenal, patients develop the condition called Addison's disease, which has heretofore been promptly and invariably fatal. Through the isolation of the new substance used as a substitute for the extract that is missing, it seems likely that these patients will be enabled to have added years of useful life. Nowadays almost every one knows about the use of whole liver and of the extract of liver in the treatment of various forms of anemia. This discovery is a direct outgrowth of experimentation on animals. This method has saved the lives of many persons who suffer with pernicious anemia and with some forms of secondary anemia.

No less significant is the development of knowledge concerning the vitamins which are essential to health and growth. All this information has been developed within a period of a quarter of a century. Obviously, the most important step was the isolation of the first vitamin and the proof of the fact that a deficiency of this substance in the diet would bring about changes in the tissues in the nature of disease. Today the total number of vitamins established includes designations covered by the letters A to E, and certainly the substance known as vitamin B has at least two different components. No one knows exactly how many vitamins there are. It seems reasonable to believe that continued research will reveal many other substances of importance in the maintenance of health through the establishment of increased resistance to disease. Furthermore, it seems likely that scientifically developed diets based on such knowledge may make possible the development of human beings better able to withstand the rigors of human existence than the human beings we have today.

THE story of scientific, specific chemotherapy really begins with the use of quinine for malaria and of mercury for syphilis. It received its greatest impetus with the work of Paul Ehrlich, who received the Nobel prize for his development of arsphenamine, or 606. Since that time many other chemical substances have been made the subject of research throughout the world and medicine has profited greatly.

World-wide recognition and enormous fortunes await successful research in the field of commerce. Inventors of devices for amusing and entertaining the public make many millions of dollars by their discoveries. The reward of the medical investigator is seldom measured in terms of finance. His reward is the appreciation of his scientific colleagues and the knowledge that by his labors he has helped to free human beings from the fear of pain and of death.

IN DEFENSE OF PARENTS

H. Armstrong Roberts

Are Modern Parents Failures?

By Ira S. Wile

ALMOST any one may marry and almost any one may become a parent. The legal limitation as to who shall marry has comparatively little effect on the determination of parenthood. If any one may become a parent, it is obvious that any organized plan for the guidance and development of children should be more or less universal in application. As a matter of fact, few parents enter on their difficult duties with any special training. Only a comparatively few have an adequate preparation to meet confidently the simplest problems involved in the child's nature or his respective nurture.

It is not strange, therefore, that parents of today are being condemned for a large variety of shortcomings. It is almost a fad of this age to condemn parenthood for its weakness, its failure, its indifference, its neglect and its ignorance. If there are any unusually unpleasant or unfortunate conditions in child welfare, parents are blamed. If truancy arises, the parents are assailed. If delinquency occurs, the parents are held responsible. Blaming and baiting the parent is a social sport.

One might ask most properly, however, whether or not these condemnations are wholly warranted? Are parental shortcomings marked by a special, blameworthy inadequacy? Is it reasonable to condemn parents on general principles when the actual causes of many of the existing difficulties of children are completely unknown?

What right has society to condemn parents for their insufficiencies for which society itself is largely responsible? If parents are ignorant, and this is by no means as true today as it was a generation ago, may not the responsibility for it be rightly placed on our social organizations? If any type of people may become parents, is not the lack of a eugenic conscience on the part of society a definite, though regrettable, explanation? If the institutions that parents need for the training and guidance of their young under the present uncertain conditions of living are nonexistent, parents are not especially blamable, but the fault lies rather in the failure of society to keep abreast of its own current needs. Parents reflect the age in which they live and are conditioned by its limitations.

If parenthood is a form of trusteeship, are parents living up to their responsibilities? This is a fair question. Are parents endeavoring to interpret the life of the day as intelligently as possible? Are they seeking to apply its lessons in the daily upbringing of the young? Are they utilizing and, in addition, offering their children the available opportunities for acquiring an understanding of the age in which they are now living?

I believe the answer to these questions would be a qualified "Yes." Parents of today are performing these duties probably as adequately as, if not more so than, the present-day grandparents did.

The general level of education of present-day parents is far higher than that of parents of a generation ago. Their familiarity with the problems of child welfare from infant feeding to vocational guidance is far superior to that of the parents of previous generations. Parents on the whole are as interested and as active in the training and education of their children as are the schools. The existence of numerous parent-teacher associations attests the efforts at parental cooperation and expresses the keen parent interest in the perilous problems of education which are threatening the peace of mind of elementary and high school principals, college deans, professors and presidents. It is unjust to place all the blame for educational difficulties and failures on parents when the professional educators are unable to cope with them satisfactorily.

H. Armstrong Roberts

Parents today understand the value of early habit training.

Parents Do Not Thrive on Abuse

Why should parents be blamed for all the failures of their children when the former have not had the benefit of rational guidance concerning an effective mode of dealing with current juvenile problems? Why should one expect parents to know more than society has been able to reveal for itself? As a matter of fact, viewing life frankly and honestly, a large part of human service is the result of floating along on the current of experience while experimenting with the types of craft that will best withstand the strains of the stream and the varying winds that blow. Society does not know its own port of call. It is moving along the sea of life with an indefinite destination.

Who would dare prophesy what the world is to be another decade hence, much less a generation hence? And yet the training and education of the children recently born must be directed to fit them for a world and age that does not yet exist and whose potentials are vague, indefinite and shadowy.

Let us be honest in contemplating the situation. Parents do not thrive on abuse any more than do children. Stating that parents are all wrong does not enlighten them. Asserting that they are responsible for the failure and transgressions of their children offers little help and no reassurance. Competence is not derived from negative criticism.

Let us ever recognize that parents may constitute a general or a specific difficulty in the lives of their children. Let us admit that harmful parental attitudes, oversolicitous fear, anxiety, a spirit of impulsiveness, pessimism or explosiveness, lying, harshness, and habitual repressiveness interfere with juvenile progress. Let us acknowledge that there is some degree of parent maladjustment to its own problems as a result of which patterns develop that are not wholly desirable for the training of the young. Let us accept as fact that there are many difficulties in parent-child relations whether they arise from undue affection, unnecessary friction or ignorant efforts at overdirection and control. Let us appreciate that this is a difficult age and that modification in industrial life, in urban life, in economic developments and in social traits, as well as the freedom of women, the influence of higher education, the shrinking influence of the home and the domination of mechanized service have pronouncedly affected both parents and children.

It has been and still is difficult for adults to know how to make their own adjustments to this changing world and perhaps they have not been too successful. To what extent, therefore, is it proper and just to expect from parents, as such, a higher degree of attainment in the teaching of their young the art of making adaptations to the selfsame world of rapid change, speed and pressure?

Have Done Fairly Good Job

It is my opinion that parents have done a fairly good job in the light of their training and experience. I desire to call attention to some of the evidences of parental adequacy despite all that has been said concerning parental weakness and failure. Too frequently in every com-

munity a group more highly trained and educated, perhaps with special experience, view with scornful superiority the honest efforts of the great mass of humanity who are caught in the continuous struggle of daily life and who are fighting valiantly for the achievement or the maintenance of economic and social standards that will conduce to the physical welfare and the social well being of themselves and their children.

Common Sense Plus Education

The ability to bring up children and to train them in useful social habits is not conditioned by education alone. I am reminded of the answer of a poor mammy in the South who, when interrogated as to how she had raised her eleven children without a single death, remarked, "Well, I didn't ever go to school or college so I just had to use common sense." And it is true of many, although it must be admitted that common sense should function best on a basis of knowledge.

The great mass of parents are vitally interested in applying their own sense to their problems. Their common sense is determined in part by their own personal experience as children, supplemented by their reactions to the realities of life. It is further modified by the opportunities they have had for self-improvement and education through contacts with schools, nurses, medical inspectors and groups concerned with child welfare, whether located in churches, philanthropic institutions, departments of health and education or in private clubs designed to enlighten their members concerning the nature and needs of children. Their knowledge, as the basis of their judgment, has been broadened by the increased development of articles in the daily press, in general and special magazines and in recent years by the wide dissemination of knowledge by means of lectures and the radio.

H. Armstrong Roberts

Perhaps the home is obsolescent, but this cannot be said of parenthood.

Have parents been reasonably adequate? I said "yes" and I must present some evidence in support of this opinion. No one can note the improved world conditions of our day, particularly as marked by the diminished infant mortality rate, without an appreciation of the tremendous gain in knowledge by parents. They have learned much concerning maternal care during pregnancy, adequate attendance at childbirth, the principles of infant feeding and the general maintenance of physical and mental health in their offspring.

The diminished infant mortality rate has been accompanied by finer living for the surviving children. There is ample evidence of improved physical status. Children today are taller, heavier, deeper chested, larger footed, with apparently a definite gain in physical capacity and potentials for meeting the physical demands of existence. The expansion of clubs, camps and associations for children reveal the parents' increasing recognition of the need for such organizations in modern life. They were not organized and developed by children nor can children of their own free will enter into all of these numerous new types of juvenile organization. Their presence and use give some indication of the appreciation by parents of the value of these juvenile organizations in promoting the welfare and happiness of their children.

The consideration of the dietary, the institution of modern hygienic procedures, and the development of interest in modern physical immunology demonstrate a tremendous advance of the present generation of parents in meeting health problems. They appreciate the value of diphtheria immunization and of typhoid inoculations prior to camp life. They were never more solicitous or more effective in the realm of physical care and hygienic guidance.

Parents nowadays manifest more prompt attention to ailments. Because there are fewer children in the home, they have become more precious as possible extensions of the family personality and are greater sources of solicitude to parents. They are given greater protection against contagious diseases and receive medical advice from those competent to give it. The old fear of hospitals is passing away.

Parents today understand the value of early habit training. They train their children in regularity, from nursing or going to bed to attendance at school or church. The habit trends of the young do not vary greatly from the current social practice of the group in which they find themselves. Parents and children have difficulty in determining the worth of some habit patterns but this does not make parental guidance less serviceable. Attitudes on prohibition are conflicting, but law-abiding parents may have law-breaking children and vice versa.

The age at which children may go to work has been postponed. Parents have not fought against the continuance of their children as liabilities up until the age of 17 or 18 years. They have recognized the value of education even when they must support a child capable of economic assistance. Many are sacrificing themselves in order to provide more thoroughly for the mental and social advancement of their children. With fewer children there is a better economic basis for improving the status of the young, even the diminished birth rate attests the belief of parents in the right of their children to enjoy higher standards of development than they were privileged to experience.

Parents Sacrifice for Education

The higher education of the younger generation further reveals a parental adequacy in the face of situations that have been by no means simple and clear. Education may not always prove satisfactory, but parents have accepted its social valuation and seek to make its alleged blessings available for their children. The great demand for education is manifest by the tremendous increase of children in our high schools and the unwarranted numbers at college. Whether or not children are competent to accomplish this advanced work, it is patent that parents are making sacrifices to give their young the opportunities that are regarded so highly as part of the necessary experience of this age.

Increasing numbers of parents are seeking to raise their own levels of learning. Adult education is an answer to the demand by parents for self-improvement both for their own personal satisfactions and for greater companionability with their more highly educated offspring. This, of course, does not represent the entire background of the educational resources developed for the mature, but the facts reveal a large number of lecture courses in psychology, sociology, economics, physical and mental hygiene and practical education, which are useful in furthering parental capabilities.

Parents are making efforts at friendly relations with their children on a plane of more or less equality rather than as dominant or czaristic creators and owners. More of them are trying to understand their young and are seeking to interpret to them the chaotic world of today. They are endeavoring to be reasonably objective. They have more insight into the emotional distress among children and their reactions to parental training, prejudices and attitudes. They are more willing to face the fact that the parent-child relationship merits thought and consideration and perhaps modifications. Hence they are willing to extend larger freedoms of action; they are seeking to apply more intelligence to their problems of discipline.

Corporal punishment is diminishing as the main method of correction. Social companionship is winning out over biologic superiority, in size, age and experience.

Modern parents are casting off many hoary ideas entrenched by reason of their own early training and experience. This is manifest, for example, in the greater attention being paid to sex education. Modern children are likely to receive from their parents information concerning sex that was not available even for girls about to be married a generation ago.

I can recall the prudish attitude of twenty years ago when sex education was tabu almost everywhere and when efforts at parental education were made behind locked doors with the parents sometimes segregated by sex for purposes of instruction. That time has gone. Today the spirit of parenthood endeavors at least to live up to the demands of this age. It no longer confuses ignorance with innocence. The adequacy or inadequacy of sex education is dependent on the weakness in our methods of education, the incompleteness of constructive cooperation and the fear of opposition by those who regard sex education only as something lustful and salacious.

Family Becomes a Social Unit

The diminished educational content of the home, together with the more common industrial occupation of women, has altered the character-forming qualities of the home as an institution. Perhaps the home is obsolescent, but this cannot be said of parenthood. While the quantity of parenthood may have diminished considerably, its quality has markedly improved. More intelligence is evident even though the eugenist may contend that the parental stock is deteriorating. If this is true, then there is all the more reason for believing that the adequacy of the parents of today is a splendid exhibition of the results of social efforts to spread knowledge, to raise standards of living and to advance the culture of our age within the home.

Parental effort is seeking to make amends for the very limitations of its field of expression that has resulted from social efforts at modify-

ing or reorganizing economic life. Our present mode of living increasingly has transferred old responsibilities of the home to other institutions. The school, the settlement, the club, the Boy Scouts, the Girl Scouts, the departments of health and of education and various home visitors, such as the visiting teacher, the public health nurse and the social worker, are seeking to articulate the home with some institution. The private family is growing to be a public social unit. One cannot remove parental responsibility and then upbraid the parents for failure to perform along old lines. Communal specialism has lowered parental authority and efficiency. Parents are perhaps less capable than their communal representatives.

Problem of Broken Homes

There is an undeniable increase in divorce as well as a large amount of desertion, and many homes are broken as a result of death. The changed attitude of society toward these three facts is represented in the freer and changing ideas concerning the sanctity and permanence of marriage, the effort to apprehend deserters in order to secure support for their families, and the continuance of family life through widows' pensions.

The world is experimenting with many new ideas concerning the home and there is some conflict and confusion regarding its worth. Only slightly below the social surface appears a definite undercurrent of feeling that the home is still socially valuable and that it is preferable to have two parents on the scene even though there may be parental friction and disharmony. The home with only one parent presents its problems but one parent is generally more satisfactory to society than none with the children institutionalized. There is much to justify this feeling that parenthood has a real relationship to the welfare of the young.

The degree to which parents should be held responsible for all the shortcomings of their offspring is still an open question. Of course there are ignorant, cruel, unthinking and inadequate parents, but they are the exceptions rather than the rule. Such parents may ruin their children but the same results are not unknown when parents are intelligent, kind and solicitous. As a matter of fact, data are not at hand to prove the exact degree to which the various vicissitudes of child life may be attributed to parental deficiencies or maladjustments, their sins of commission and omission. Black sheep appear in white flocks. Mental defectives are born in homes of high intelligence and probity. Intellectual capacity in families of high moral and religious feeling does not guarantee conformity to social standards. Delinquents may come from homes proud of their virtues while upright character and integrity are not unknown as products of homes of squalor or even iniquity.

Why Blame Only the Parents

Our educational failures, our emotionally unstable, our vocationally maladjusted, our antisocial or asocial delinquents and criminals constitute a challenge to social organization. Is their existence due to parental inadequacy or to society's inadequacy? The answer is difficult. While the necessary investigations are being developed and careful studies are continued over a long period of time, it is unwise and unscientific to condemn parents as the only scapegoats.

Ewing Galloway

Parents are making efforts at friendly relations with their children on a plane of more or less equality.

PNEUMONIA

By J. H. J. Upham

PNEUMONIA ranks high in the list of deadly enemies of the human race. More than any other of the acute infectious diseases it has resisted the advances of scientific medicine both in prevention and in treatment. It still is one of the most frequent causes of death, and yearly in the United States exacts a toll of more than 100,000 lives. With the mortality of the disease averaging from 25 to 40 per cent, this means that there are from 300,000 to 400,000 cases occurring every year, and with its tendency toward complications such as lung abscess, abscess of the pleura (or empyema), damaged hearts and tuberculosis, chronic invalidism and indirect deaths, the evil record is still more augmented.

More Prevalent in Early Months

Statistics clearly indicate that nearly one half of all cases occur during the months of January, February and March, showing a definite relationship to exposure to cold and wet. While the disease occurs everywhere in the United States, it is more frequent in the cities, probably as a result of overcrowding, bad ventilation and the more or less definitely established contagious character of predisposing colds.

The term "pneumonia" is loosely used and includes several diseases differing in their cause and varying considerably in their seriousness. The one constant feature of all is the congestion and solidification of a portion or portions of the lung tissue; the serious results depend on the amount of consolidation, the poisonous character of the germ causing the inflammation and, above all, on the character of the body resistance of the patient.

For instance, a common type is the one following ordinary colds or bronchitis, and is merely an extension of the inflammation to small areas here and there throughout the lungs. It occurs frequently in children and in elderly persons. If the areas affected are not too numerous and if a child patient is vigorous, the outlook is usually favorable. If, on the other hand, the child is feeble, poorly nourished or the victim of other weakening conditions, the disease is much more serious and may be fatal. Especially does the poor circulation of the aged render this condition serious and too often fatal.

These two extremes of life account chiefly for the death rate from pneumonia of this type, which amounts to less than a third of all the deaths from pneumonia.

A second type occurs more or less accidentally after ether anesthesia, and is mistakenly called ether pneumonia. It is not actually the result of the ether; if it were it would be much more frequent, considering the great number of ether administrations occurring daily. It is true, ether does cause a certain amount of local damage to the bronchial mucous membrane, but there must be in addition the inhalation of inflammatory germs. Fortunately this is rare, and the results are not necessarily serious, depending largely on how seriously the resistance of the patient has been impaired by the operation.

A third type is really not a true pneumonia at all. It occurs in debilitated persons, usually sick from some other disease, who are allowed to lie too long in one position. In such persons the circulation is poor, and the blood collects in the dependent portions of the lungs. It may be prevented by attention to the frequent changing of posture and by watching and stimulating the circulation. Occasionally, however, in the aged or debilitated, pneumonia of this type may bring about a fatal termination.

The Most Serious Type

These three types together account for less than a third of all the deaths from "pneumonia" and are not in themselves relatively serious threats to humanity.

The really serious pneumonia, the great threat directly and indirectly of death and invalidism, is actually a separate and distinct disease. It has a special germ cause, the pneumococcus, and it runs a definite course with a distinct clinical picture. It kills directly in two ways: first, by the poisonous effects of the germ, and, second, by attacking the heart or bringing about complete exhaustion of that organ.

In the terrible influenza epidemic of 1918, there was prevalent also an extremely virulent type of this form of pneumonia and the deaths from influenza were really due to its coincident presence. In that year alone more than 250,000 persons died from its effects, more than double

the usual rate. It was not at all uncommon in 1918 to see patients die after two or three days' illness, apparently simply overwhelmed by the poisons produced by the germs. Ordinarily the chief danger is from the later effects on the heart, and in the absence of such an epidemic as in 1918 that is the chief thing to be guarded against. That is why the physician carefully watches the condition of the heart in a patient ill with pneumonia and directs his treatment largely toward aiding and supporting the function of that organ.

The treatment of pneumonia, especially of this last named type, is largely supportive. It is a self-limited disease—that is, it runs a definite course of from seven to nine days—and the main object is to keep up the patient's strength and help him overcome the infection.

Many attempts to produce a specific serum have been made, and while some of these are promising, unfortunately they are most effectual in the milder forms, which stand a good chance of recovery anyway.

Complications Often Arise

In the severer forms, the results are not so favorable, but physicians are hopeful that something will be found that will be more efficient; in fact such an outcome seems only a question of time.

There are dangers other than the toxic action of the germ and its effect on the heart. The patient may be making satisfactory progress in these respects and the outlook may appear favorable, when suddenly the fever may rise and indications of a lung abscess may present themselves. While not necessarily fatal, this is always a serious complication and accounts for a definite number of the fatalities.

Sometimes after the crisis occurs, and the physician feels reassured as to the outcome, fever appears again, with possibly a chill; the patient complains of a pain in the side of the chest and examination reveals fluid in the pleural cavity, necessitating puncture by a hollow needle, which reveals the presence of pus. This often requires surgical aid, sometimes the removal of a portion of one or more ribs to allow for drainage. This procedure is usually successful and life is saved, but often a long period of invalidism and, at best, a prolonged period of convalescence result.

Danger of Tuberculosis

Still a third danger remains, and that is a distinct possibility of tuberculosis. The convalescence of all pneumonia cases must be closely watched for this danger, and every measure taken to protect the patient and restore his bodily vigor and resistance as promptly as possible.

In the matter of prevention also, the physician is handicapped. Lobar pneumonia is definitely a germ disease, and the germ is evidently widespread. It is not infrequently found in the throats and nasal cavities of healthy persons, who are carriers of potential infection.

Evidently there must be more than the mere presence of the germ, and this must be a lowering of the individual's resistance, most commonly by exposure to cold and wet. This is what makes the disease so much more frequent in January, February and March.

It is to be hoped that soon there will be developed a protective serum that will guard against this grim destroyer. At present, the doctor can merely advise against exposure and catching cold. One should dress sensibly and properly, avoid going about with damp clothing, guard against wet feet and drafts, and avoid close contact with those with active colds in the head or coughs.

In the meanwhile, research workers are actively working in the hope of presenting something more definite and more positive in the way of prevention of this dreaded disease.

The Scientific Method

Is Not Out of Reach of the Average Man

By Roscoe R. Spencer

AMERICA leads the world in the amount of capital available for scientific research. Indeed, on a huge scale at last we are following the advice of the sixteenth century Francis Bacon, father of the scientific method, who first declared that "we must put nature on the rack and compel her to bear witness" if we wish to make genuine progress.

Despite this great expansion of research in every field of science the average person is still bound by ancient and hereditary modes of thought and has only the vaguest ideas regarding the working methods of the men of science.

Animal Experimentation

At the last session of Congress (seventy-first) hearings were held before a senate committee on a bill to prevent experimentation on dogs in the District of Columbia. The proponents of this bill claimed in effect that knowledge had never been increased by any kind of animal experimentation, that although the motives of the experimenters were probably good their methods were wrong, that the same results or better could be obtained by the application of modern sanitary methods and, finally, that all animal species could and should live harmoniously together. A prominent Episcopal minister of the city of Washington also spoke in behalf of the bill, objecting to animal experimentation on moral grounds and declaring that God never intended man to advance by cruelty to animals.

Upon questioning, it was freely admitted that this so-called "dog bill" was merely a wedge for future legislation prohibiting experiments on all animals. At this juncture a member of the committee commented on "the beautiful sentiments" but could not reconcile himself to live harmoniously with all species, having had an unpleasant experience with a flea which had worried him nearly all of one winter.

Bills of this nature are introduced at nearly every session of Congress by various members who, as a rule, have been persuaded to do so by the salaried "legislative secretaries" of the endowed animal protective leagues and other similar organizations. This state of affairs is due to a lack of a clear understanding of the scientific method and no doubt is not altogether the fault of the layman. There are some few scientists who are not unwilling to be considered as superior beings. In cloistered isolation and assuming a manner of mystery they prefer to shield from the eyes of the world those simple procedures that they have come to believe are their own exclusive prerogatives and beyond the ken of the crowd. They see no benefits to be derived from the humanization of knowledge.

But must research be left entirely to the genius and to the highly gifted few? Do the methods

and habits of thought of the scientist differ radically from those of the ordinary person? I at least am convinced of the simplicity of the scientific method and I believe that the average person is capable of accomplishing much by its use, although I admit that here the wish may be father to the conviction. At any rate after an examination of the scientific method the reader may judge for himself.

There is a second group of critics of the scientific method to whom we should also give consideration. They are propounding questions far more difficult to answer: Is the scientific method outwearing its usefulness? Is it the only method by which we may approach truth? In what ways do science and religion conflict? Is our mass attack on the unknown increasingly productive or shall we soon reach the limits of "the knowable"?

Perhaps these questions can never be answered satisfactorily but it should be pointed out that the validity of the scientific method is not questioned by the scientists themselves but by those very people who had at one time a too childlike faith in what science might accomplish. If they have now lost confidence we suspect it is because science has not made advances more rapidly.

In every generation there are impatient souls who look for the millennium. As an example, not long ago a writer in one of our best magazines complained that science had failed on three counts, namely, (a) it had failed to explain the meaning of life; (b) it had not given us a satisfactory system of education and (c) it had not made us happier.

Should Science Explain Life?

Is it not a great compliment to expect science to explain the meaning of life? Neither religion nor philosophy—both thousands of years older than our modern science—has satisfactorily explained life, although this very problem has been the major objective of both philosophy and religion, while it is not within the province of science at all.

In answer to the second charge, it must be admitted that our educational system is by no means satisfactory, but we need only point out that it is being steadily improved and that the present laboratory method of instruction in which the student accumulates experience largely by working with his hands is at least an improvement over that of a hundred years ago.

Finally, in regard to happiness one cannot be sure that it has not increased absolutely as well as relatively to the increase in population. As yet there is no foot rule with which to measure happiness either past or present, individually or collectively. One wonders, too, what the average person would do if he were compelled to give up either the products of the scientific method—such as the radio, the automobile and the telephone—or else to surrender his quota of knowledge arrived at through the channels of emotional experience or inspiration. So, after all, it may be that the scientific method has not failed but we have failed to be patient and have been too quick to hope.

Surely there can be no reason why the scientific method should not be better understood, and the easiest approach to an understanding of the spirit of science and research is to regard them from the point of view of the biologist. Above all, biology teaches a certain interdependence and kinship of all living things. There is a definite and recognizable pattern of both structure and function throughout the animal kingdom. In the higher species this pattern is more complex and more fully developed; in the lower species it is rudimentary, less complex and less fully developed. Therefore we should not be surprised to find that the foundations of the research method rest on simple qualities common to all species.

Research in Science

These simple biologic qualities on which the more complex methods and procedures of the scientific investigator are based may be revealed by studying the behavior of the lower animals under certain selected experimental conditions.

We may take, as illustration, the well-known experiment in which the behavior of the starved rat is observed. If such a rat is placed in a cage with food enclosed in a smaller cage, which cannot be opened except when the rat elevates a lever by raising his head at one point only, the food will not be reached for twenty or thirty minutes. At first the rat makes many useless and purposeless movements, and of course he can perform only the various motions he knows instinctively or has acquired as an individual rat. But finally through continued effort stimu-

lated by hunger, by trial and error as well as pure chance, he reaches the food. If the experiment is repeated after again starving him, the food will be reached in a shorter time. After the fiftieth time the lever is lifted at once. The action is now so prompt that one seeing it for the first time would consider the rat highly intelligent, a genius perhaps, compared with his untrained brothers. But, no, the experimenter knows that the native intelligence of this rat was not above normal and that the skill was developed and acquired by repeated experience and a gradual process of adaptation to the specific conditions.

In a similar manner the training given to dogs, horses, seals and other animals may pass for unusual intelligence when it is simply unusual training plus normal intelligence.

The research worker's behavior when he attempts to solve new problems is not unlike that of the rat. What differences there are can be shown to be differences of degree rather than kind. And if this is true, then we see no just cause for the pride or the intellectual snobbery of the genus, *Homo scientiae*.

Our experiment started, be it remembered, with a normal healthy rat of average intelligence and it is obvious, of course, that persons who are normal in health and intelligence are likewise essential to the solving of scientific problems. Further analysis of the behavior of our experimental animal reveals still other qualities such as persistent effort, trial and error, and a gradual acquisition of greater and greater skill. The element of pure chance also played a part. Everything depended on some motive power—something to start the activity. With the rat the stimulant was simply hunger increased by starvation and sight of the food. Without this biologic urge there would have been no enthusiasm and hence no effort and no activity. Chance could not come into play nor could skill be acquired without some motive power to act as self-starter.

In the methods of either rat or man there is nothing profound or even unusual, but we are led, on the other hand, to that trite and time-worn saying that nothing much can ever be accomplished without enthusiasm. "Men ought to know," says Bacon, "that in the theater of human life it is only for Gods and Angels to be spectators."

But how are we going to create enthusiasm for research? Obviously, if we hold to our biologic point of view, by stimulating and cultivating the natural hungers and urges, those normal biologic characteristics that every person possesses in some degree—natural curiosity, the desire to overcome the environment, the habit of experimentation, the urge toward creative effort, and the craving for self-expression.

We do not wish to be too dogmatic and perhaps there is no single formula for creating research workers. Nevertheless, it should be emphasized that the scientific habit of thought is not beyond the reach of the average person. An opinion expressed by the committee on research in education of the American Association for the Advancement of Science should be authoritative. It says: "We believe that every normal individual is born with some endowment of the research spirit . . . that this mental habit of learning by self-reliant experiment should be conserved and strengthened from the beginning throughout life. . . . We believe that all education from prekindergarten age on through the university should have this encouragement of the spirit and habit of research as a main object. . . . We believe that teaching should be conducted only by those who have the research attitude themselves and have ability to cultivate it in their pupils."

Research in Education

Dr. A. J. Carlson of the University of Chicago has for years required that each medical student do a bit of original investigation in some one field of his professional training, and he believes that at every stage of education the student should be permitted, if not compelled, as a part of the program to answer questions not from books or lectures but by field investigations, to the end that the scientific method may become as fixed and as natural in his behavior as breathing.

It seems, then, that the application of the research spirit to education in general is based on the belief that the capacity for research can be acquired and is therefore as much an achievement as it is a gift. Such a view is contrary to the one generally accepted even among scientists, that research investigations can be carried on only by people of unusual intellectual gifts and that men qualified to do research work are extremely rare.

No doubt the most spectacular advances and discoveries have been made by those intellectual giants—the da Vincis, Newtons, Pasteurs and the like—men who by the sheer force of their genius made discoveries not because of a favorable environment but even in spite of an unfavorable one. There is certainly no need to worry about the genius; he will take care of himself.

However, the modern trend in research, while recognizing fully the value of genius, wishes at the same time to provide in our educational system the best possible environment, one that will tend to develop those latent powers that may lie unused in the normal person. Scientific knowledge is increasing so rapidly and has become so specialized that it is difficult for any one worker to keep up with the advances even in his own field. More and more he is dependent on the work of his colleagues and predecessors. What Will Durant has called "parthenogenetic

originality" is a rarer phenomenon nowadays than formerly, if it ever existed at all. So even the genius owes a debt of gratitude to his less-gifted and nearer normal fellow-worker who has made essential but less spectacular contributions to science.

Whether the research worker is born or made is not the primary concern of this paper. Its purpose is to consider his methods of approaching and seeking truth. The great majority of people, even our leaders, have failed to see or deliberately ignore the fact that these methods have gradually brought about a new attitude toward life. Let us look into this new way of life, or scientific philosophy, with all its implications and influence on our daily lives.

Science is proud of its growth. The spirit of science is dynamic. The body of scientific knowledge is continually being added to and is subject to continual revisions and modifications. There is no absolute truth, it is always relative. Therefore, there can be no changeless creeds. Creeds and dogmas are short cuts created for the purpose of inflating the ego of the unthinking and uncritical.

The language of science is always guarded and qualified. "Only charlatans are certain." Ambiguity is never tolerated. Science insists that all its statements be so worded that only one interpretation is possible, although tomorrow some newly discovered truth may make obsolete the dictums of today. Its textbooks must be continually revised.

Science Is Questioning

Science emphasizes the value of skepticism and self-reliance in every field of human endeavor. One must inquire, search, doubt, analyze, take nothing for granted and question every authority. Science believes that nature challenges us to come, investigate and discover its truths. Science does not object to criticism but prefers it as one method of clarifying thought.

Science suggests that our choice of action is limited by the things we have learned inherently or from individual experience. A person rich in experience will show a more intelligent choice than one poor in experience. The limited freedom one has is an achievement based on experience. It is not altogether a gift. The best approach to freedom is through slavery according to the doctrine of continual struggle and achievement.

Science distrusts feeling and emotion. "All knowledge is vain and erroneous except that brought into the world by sense perception." "Whatever the mind seizes upon and dwells upon with peculiar satisfaction is to be held in suspicion." The wish must never be father to the thought. Science believes that there is a strong human tendency to defend the children of one's imagination regardless of reason. Action, therefore, should always be reflective, informed and rational.

Scientific reasoning is inductive. Revelations come through "perspiration rather than inspiration," through continued effort and trial and error. Truth also is an achievement, not a gift.

Science neither denies nor affirms a future life but considers this life as the only one we can be sure of. Nature is prodigal in creating millions of individuals to carry on her work but everywhere the evidence suggests that it values the race rather than the individual. For the race science seems to postulate a gradual intellectual and spiritual growth—an ascent of man. Civilization seems to be an experiment in which important work is being done by unimportant individuals like the slaves building the pyramids, with the exception that the slaves at least knew what the pyramids were for.

Many scientists look on themselves simply as single cells in the blood stream of humanity or perhaps as mere guinea-pigs in the cosmic laboratory of the Great Experimenter, but they regard life here as a thrilling adventure, grateful for the privilege of playing even a minor rôle and hoping that their labors are not for nothing. "Happiness is none the less real because it must come to an end." "Do good for good is good to do, spurn bribe of heaven and threat of hell."

All living things adapt or attempt to adapt themselves, and adaptation is just as essential to life as assimilation of food or reproduction of its kind. Failure will result in death not only to the individual but to the species also—as witnessed by the thousands of extinct species, more perhaps than now exist. Successful adaptation, on the other hand, means abundant life and produces among other marvelous things the grace of the sea gull, the nimbleness of the pine squirrel, the speed of the deer, the cunning of the fox and the hand and brain of man.

Naturally, therefore, the questions arise: Can man always successfully adapt himself? Has he special characteristics that make for survival? Or will he finally go the way of the dinosaur?

No one can give the correct answers, but at least man, unlike other species, waits no longer for the environment to mold him. With steadily increasing zeal, he now deliberately sets about molding the environment in which he has been placed. Even for man this is a relatively new and recent kind of adaptation—offensive rather than defensive.

Of course, here lies the heart and soul of research, which is slowly being recognized as the most powerful and effective weapon yet devised for bringing the environment under control. So why should not the scientific method be more thoroughly humanized? And why should not every one serve for a time in the "front trenches of the siege of truth"?

Football Hero—

By Henry Pleasants, Jr.

Tom Linebucker was a quadruple-threat man—he could punt, buck the line, run the ends, and tackle equally well.

"A GENTLEMAN to see you, Doctor." The white clad office nurse laid a card on the desk and retired. Dr. Branch put down his medical journal and glanced absently at the name, puzzled for a moment, then he leaned back in his chair thinking. A brief decade ago a visit from such a celebrity would have created only slightly less of a sensation among sport lovers than would have a visit from the president himself.

Tom Linebucker! The name conjured up visions of a jumble of jerseys and moleskins with one heroic figure fighting his way through the mass of humanity and carrying a very precious bit of pigskin over a certain white line to the accompaniment of screams, roars and yells from fifty thousand thrilled spectators. Tom Linebucker! The best fullback in intercollegiate ranks; chosen for the phantom All-American team three times. Not a mere triple-threat, but a quadruple-threat man, one who could punt, buck the line, run the ends, and tackle equally well. The man whose name was a by-word not only in collegiate but in household circles. Well, he was here evidently as a patient. Doctor Branch touched the signal bell and rose from his chair.

A magnificent specimen of humanity entered the office, a man fully 6 feet 4 inches tall, and broad in proportion. In response to the doctor's gesture he seated himself in the arm chair, which creaked audibly under his weight. As he settled himself the doctor noted that he heaved a deep sigh and that his breathing was more rapid than normal. There was a slight slouch of the shoulders that ten years ago on the football field were so conspicuously square. The 190 pounds of bone and muscle shown on the team statistics of that day had evidently been increased by at least 60 pounds, and the unbuttoned lower section of waistcoat showed that the tailor had failed to make allowance for steady enlargement amidships. The rugged boyish face with the kindly gray eyes and the grim, determined jaw was still the same as ever, but the rosy cheeks had become a trifle florid, and there was a trace of bagginess under the eyes. Dr. Branch smiled courteously and drew a blank record card before him in readiness for a few notations.

"What can I do for you, Mr. Linebucker? I feel as if I knew you, even though I have never met you. I'm something of a football fan, you see, and you played on my college team. I was graduated several years before your time."

Ten Years After

"Did you keep up athletics at all after you left college?" Dr. Branch inquired.

"That's why I came to you, Doctor." The big man leaned forward in his chair. "You used to be a football player yourself. I have felt for some time that something was wrong with me, and most of the doctors I've consulted have just thumped my chest and laughed at me. They seemed to take it as a joke that a big husky like me should be sick. I'm not sick, exactly—that's the queer part of it. I haven't an ache or a pain anywhere. The only thing is that I notice I puff a good deal, and sometimes I feel as if my heart was going too fast."

"How old are you?"

"Thirty-two."

"What is your occupation?"

"Well, I'm really only a glorified clerk," the man stirred uneasily in his chair, "You see, when I left college I was given a job in Jim Hartranft's brokerage office. Jim had sort of seen me through college," he smiled, "you know what I mean. He wanted the team to make a good showing. Well, as I was saying, I entered Jim's office. I didn't know anything about accounts or banking, but my job was to sit around and make myself agreeable to customers most of whom were old college fellows. I didn't draw much of a salary but was allowed a commission on the deals I made. Jim gave me a membership at his club so that I could help him out on entertaining. It was pretty soft for a while, just sitting around and being a good fellow at the office and the club."

"Did you keep up athletics at all after you left college?" Dr. Branch inquired.

"No. I had all sorts of offers to coach teams, but I felt that I owed it to Jim to stay with him. What's more, I was about fed up on college football. Too much grind. It's a grand game—for the spectators! I guess I was too easy going and coaching meant work, work that I did not like. I was making more than a coaching job would have given me. Making it—yes. But not saving a cent. Parties, races and a bit of plunging occasionally. No, the farther I got from football the better I liked it. As to other athletics, they were more or less of a bore. I hated golf and was too heavy for tennis besides being a poor player."

"Did you drink much?"

"Oh, about average. I'm not a soak by any means."

"How about smoking?"

"Well, I never smoke more than one cigar at a time," he grinned.

Dr. Branch scribbled a few notes on the card and rose to his feet, "I'll ask you to go into this examining room and strip. I'll look you over in a few minutes."

When the examination was over Dr. Branch invited the patient back into the consulting room. As the afternoon office work was at an end, he pulled out his pipe and proffered a cigar to his visitor. For a few minutes he sat puffing thoughtfully.

"Your case interests me a lot, Linebucker," he began. "I have seen so many problems like yours, and they require careful handling and treatment."

"Anything very serious, Doctor?" The big man's face grew anxious.

"Sure it's serious, but not incurable. The cure rests as much with you as with me."

"Well, what's the matter with me? Tell me the truth," the grim jaw tightened as in football days, "I'm sick of having doctors duck around things. Come out with it. I know I've got a rotten heart. Common sense and my own feelings tell me that. But I'd like to know something more about it."

Dr. Branch removed his pipe from his mouth: "I'm not going to duck around things, as you say. I believe you are the type of man who can be talked to and who will listen. I am going to tell you a few things about your heart and yourself in United States English—not in medical terms. If you cannot understand me because I do not make it plain enough, then I do not understand it myself. Get that?

"Your heart is a muscle, just like any other muscle in your body. When you take any muscle and use it a great deal it will become larger and stronger until it is capable of doing the work required. If a man wants to develop the biceps muscles of his arms, he chins himself on the horizontal bar. The more he practices that exercise the larger his biceps become. If he keeps steadily at it he will in time be able to chin himself with one arm because the biceps of that arm has enlarged and strengthened enough to stand the strain.

"Now, supposing he breaks one of his arms, and it is put in a splint for a month. Will he be able to chin himself with that arm as soon as the bandages are removed? Of course not. The muscles are all soft and flabby like a baby's. He has to train those muscles all over again; but it will not take long to do so, not as long as at first, for the scaffolding of the muscles is still there and the nerve pathways are still in working order.

Heart Muscle Flabby

"What has happened to that muscle, or group of muscles, during the period of idleness is that each little muscle cell has been kept bathed in its own stagnant secretions which, under normal conditions of exercise, are carried away by the body fluids, such as lymph. By the same token, the cell has been deprived of nourishment that is usually brought to it from the blood through the lymph when the muscle is relaxing and contracting in active motion. The little cell is poisoned by its own secretions just as you would be poisoned if you were shut up in an air-tight box long enough.

"The body, or any part of the body, is healthy in exact relation to the health of the individual cells. If the individual cells of a muscle are poisoned or ill nourished then the entire muscle will be weak and flabby."

The doctor paused and puffed slowly at his pipe. His visitor looked at him intently, nodding his head in comprehension. His cigar had gone out.

"To come to the point in your case," Dr. Branch resumed, "your heart is in the same condition as the muscle of a strong man's arm after he has had it in a splint for a month. I'll tell you for your own reassurance that your heart is not in the least diseased by infection, such as rheumatism or other bacterial invasion. It is simply a flabby muscle—one that will not stand too much strain. If you were to run up a long flight of stairs the chances are that you would overtax those flabby heart muscle fibers and they would stretch suddenly. You would collapse almost instantly, and perhaps die in a few moments from what we call 'acute dilatation of the heart.'

Every Cell Is Stagnant

"Remember this, too. When an active, athletic man becomes sedentary every cell in his body becomes more or less flabby, and the body fluids become filled with the poisons of stagnation. That is what we sometimes refer to as 'auto-intoxication.' These poisons are not carried off as they should be, and they are reabsorbed into the blood. The blood, which should bring nourishment to the cells, brings poisons instead, and the cells become not only flabby but actually degenerated.

"You are apparently perfectly healthy from the standpoint of actual disease or bacterial infection. In other words, your normal resistance to disease is still present. Your cells are flabby and stagnant, but they still retain their power to combat the germs you are constantly exposed to. But the time is not far distant when those germs, perhaps the germs of pneumonia, will be stronger than your cell resistance and will gain a foothold in your system. There will be an enormous demand on your reserve vital energy, and it will be found lacking. Have you ever seen one of your old teammates carried off in two or three days by flu or pneumonia?"

"Heavens! Yes." The former star athlete's eyes filled, "How about Bunny Robinson? I had dinner with him at the club the day before he was taken sick and he looked the picture of health. He was buried just one week later."

"Exactly. But perhaps he was better off going that way than lingering along for a year with tuberculosis like Fred Holloway. You remember Fred, the star half-miler. Funny thing about that record-breaking two mile relay team; two are living and two died of tuberculosis. One of those who died was a brilliant and hard working physician; that was Fred."

"How about the other two who are still living? What are they doing?"

"That's another interesting thing. If you should go out to the athletic field any afternoon about 5 o'clock you would probably see Jim Downing in running togs jogging around the track for a couple of miles. Look at the calves of his legs and you'll know that he's been doing that same jogging nearly every afternoon for the last ten years. He's a dentist, incidentally. The other survivor runs a big boys' camp and farm several months of each year and is the picture of health. You see they had sense enough to keep up their exercise."

Worst Form of Athletic Exercise

Dr. Branch puffed angrily at his pipe, "That's what makes me so cussed mad about football. It's a grand game, but a fellow cannot keep it up after he leaves college unless he enters the professional ranks. Yes, it's a grand game, but it's the worst form of athletic exercise. The biggest and huskiest men are beaten into the finest possible physical condition in the shortest possible time to compete during a season that lasts barely three months. For four years they go through this periodic grind and are then turned loose with overdeveloped muscles and without a chance to keep them in condition unless they become piano movers. A certain number of them are fortunately financially able to develop a taste for golf and tennis. Others go into professional athletics and keep in condition, but there are vast numbers like yourself who have drifted into indoor jobs that a one-legged, cave-chested, 100 pound, 60 year old clerk could do. And they wonder why they feel bad!"

"Well, Dr. Branch," the ex-star stretched his big body back in his chair, "this is all mighty interesting and mighty true. But it doesn't solve my own problem. I'm lucky, or unlucky, perhaps, to have no family dependent on me if I should suddenly shuffle off, as you think I might. I'm not afraid to die, but I'm reasonably anxious to live comfortably for a few years. Without your telling me any more I can see how I've really abused myself without being actually vicious. I want your advice, and I'm ready to take it."

The doctor studied the man closely for a few seconds before replying. So many men had come to him for advice and then had promptly gone along their own way. He had become discouraged about giving too freely of what was deepest in his mind. But this fellow seemed in earnest. He had a good set to his jaw. Moreover, he was the type of man who could be a fine leader in the big things in the world just as he had been in football. The crime that had been committed against him was that he had been used as an advertisement, a mere advertisement in the brokerage office. Everything possible had been done to keep him from developing his best qualities, both mental and physical. There were two problems now: one of the body and the other of the mind. Both must be developed at the same time and in such a way that they would coordinate in producing something really great. But there must be a trial by fire first. He knocked the ashes out of his pipe and settled himself in his chair:

"Linebucker," he began slowly, "I'm not going to read you a lecture. I'm not going to outline a system of diet and exercise, or give you a few pills, and let you go on your way. I see a chance for you to get into perfect condition, but if that means that having put yourself into perfect condition you are going to drift back into the same old easy-going rut there is no use in my taking your case. However, I think you are the same old fighter against odds that you used to be. I have outlined this plan:

The Doctor's Prescription

"You are to clean up your affairs here; buy two pairs of the heaviest and most expensive custom-made walking shoes you can get; provide yourself with a change of clothing and a few things that can be carried on a light pack, and set out on foot for a certain town in Michigan where there is a big construction job going on. You are not to hitch-hike a single mile. It will take you six weeks to reach the place. By the time you get there I think you will be in physical condition to tackle the job that I'm going to secure for you.

"On the way I want you to study road construction at every opportunity. Take pamphlets and books and perhaps take a swing at a correspondence course that can be shipped to you. Peg away at highway engineering all your spare time on the hike. It's the type of work you can do better than most men, and it will keep you outdoors for a year or more. By that time you will have found yourself mentally and physically, and within the next five years you will come back here and offer me a job as consulting physician to your firm. How about it?"

The big man rose to his feet and held out his hand. "Dr. Branch, you've given me something better than medicine. You've given me an objective; and, what's more, I'm going to reach it with your help." The big jaw snapped tight and the old football fire shone in his fine eyes. "I leave next Monday."

"How much did dat cawn-field shirt cost?"

By
LUCRETIA PENNY

"Whar de Wash Leaves Off"

I'm wadin' deep water, don't you leave me.
I'm wadin' deep water, don't you leave me.
I'm wadin' deep water, don't you leave me.
Holy Sperit, don't you leave me alone.

TWO lines of a song were all that Aunt Paisley needed to carry her through the longest day. Never, unless she became unusually absent-minded, did she proceed to a third; one tune served for whatever she wished to sing. Her singing was saved from monotony by the wide range of emotions that it reflected.

Aunt Paisley's Mood Changes

As she began to sort our wash on Monday morning she started her "Deep Water" song in high spirits. Her old voice floating in through the kitchen window indicated to me as I stacked the breakfast dishes that the world was quite all right. Then she paused, and when she sang again the deep water was a treacherous, muddy tide, running over quicksand. Curious to know what had happened, I picked up a tea towel and went out to add it to her heap of laundry. Aunt Paisley had draped a new blue broadcloth shirt over the edge of the tub and was looking down on it contemptuously.

"How much did dat cawn-field shirt cost?" she demanded of me.

"W'y, I'm sure I don't know, Aunt Paisley," I told her. "It isn't my shirt, you know."

"How much you reck'n?" she insisted.

"Oh, maybe two dollars, maybe a little more." I was aware that whatever I told her, the answer would be wrong.

"Dat's 'bout whut I reck'n," she muttered. "Two dollars for a cawn-field shirt! Two dollars whut would bought a white shirt whut could be biled and sunned, and would look like somethin' hangin' on my wash line."

"You can't give up the idea that a gentleman doesn't wear colored shirts, can you?" I asked, rejoicing that this time it was not I who had caused her displeasure.

She stooped again to her sorting, but her broad face was seamed with disapproval. "Dey got no right to!" she argued. "I got after dat little Langley Perkins 'bout hit, and you know whut he tole me? He says, 'Dat's a spote shirt, Aunt Paisley!' I says, 'Hit looks hit, Chile.' De stripes in dat shirt would most likely turn old Perfessor Lang Perkins over in his grave, could he see whut dat boy had come to. Spote shirt! Dat Doctor Tracey don't wear a biled shirt one time in ten. I couldn't have me a mis'ry stout enough eber to make me send for dat man. No, suh. I couldn't now!"

"No More Mister Doctor Georges"

"That's because you've never thought that there were any real doctors since Dr. Apperson died," I told her as I shook my conscience free from the breakfast dishes. "Mister Doctor George" was Aunt Paisley's favorite hero. She never failed to add the "Mister" to his professional title—there was a gentleman and a doctor, it told you—but her voice carried a note of respect so compelling that titles, by comparison, seemed meaningless. More than once I'd heard her calm the panic of a hurt child

with her, "You hain't got no call to carry on dat way! Mister Doctor George is comin'!" That same infectious confidence of hers was not lost on adult sufferers. All of us who knew him had the same deep feeling of respect for the old doctor's skill, but in Aunt Paisley's voice, and on her broad black face, it became somehow a tangible thing.

"Dey hain't neber goin' to be no more Mister Doctor Georges," she moaned. "I still got a bottle of med'cine he give Hattie Lou the summer 'fore she died, and dat stuff still got hit's stren'th. I hain't neber use' but one drink outen hit since Hat died. Den I give Woodrow Will one drink one day when he come in groanin' 'bout a mis'ry in his insides. I give him dat one drink, and he laid down. Den 'bout a hour I shuck up de bottle to give him 'nother swallow, and he says, 'Ne' mind, granny. I done got well. I'm goin' back to hoein'!' "

"What was the medicine for?" I asked her, thinking that it must have been powerful indeed, for it was a well-known fact that Woodrow Will had inherited none of his grandmother's energy.

"For whuteber ailed him," she answered shortly, tossing colored clothes into a despised heap and dropping white ones into a tub to be "rubbed out to bile."

"Mister Doctor George's med'cine had got some body to hit. Hit taste like hit mean business. Hit was diff'ent dat way from dis new-fangle kind whut numbs a mis'ry but don't drive hit off. One time I took me a swallow of some pink stuff Doctor Tracey left for Mis' Perkins, and hit taste like flavorin' dat had been through a freeze and a thaw. Dey wasn't nothin' in dat taste you could lay hold on. Hit's like de way dat man talks. You can lissen at him all day and not find no place to ketch on. Aunt Paisley was pulling white shirts from the pile with loving hands.

Mammyless Babies

"'Member dat baby Mr. Steve Sander's last wife died and left? Mr. Steve's sister, Mis' Bailey, had one 'bout like hit and she started off to nuss 'em together. Den she got fever, and dey brought Mr. Steve's baby home and put hit on a suckin'-bottle. Den teethin' come on and pretty near kilt hit. Mammyless babies is a lot like mammyless pigs. Dey can be growin' up de nicest, fattest kind, but let hard luck hit 'em and dey're mighty likely to quile up and die. Look like dey hain't got de hold on life to make 'em stand trouble. Well, dat one of Mr. Steve's had done seen Trouble 'til Old Trouble didn't look natu'al to him, and wouldn't nothin' do Mr. Steve but dat Mister Doctor George needed dat Doctor Tracey's 'vice 'bout him."

She plunged her beloved white clothes under the suds with one capable hand while the other reached for her washboard.

"You washed for the Sanders, didn't you?" I asked, afraid that she might let the family out of the conversation before I found what happened to the baby who had so much trouble.

"Mister Doctor says, 'Aunt Paise, hain't bilin' whut you does best?' "

She nodded. "Den I stayed dar awhile, 'til dey could get somebody reg-'lar. Doctor Tracey come out to de kitchen and commenced 'bout how he wanted de baby's milk fixed. Hit was do dis, and do dat, and di-lute de other, and den pour hit in a stehlized bottle, and not a word in hit dat sounded like nothin'. He'd done got in his car and gone off when Mister Doctor George come out laughin' all over his face. I was still standin' dar tryin' to find a word to ketch at, and I couldn't 'member nothin' but di-lute and stehlize, di-lute and stehlize.

Doctor George Explains

"Mister Doctor George axt me did I take hit all in, and I tole him 'No, suh; dat Doctor Tracey said di-lute hit but he neber give me no di-luter, and said stehlized bottles and I hain't neber eben saw no suckin'-bottles 'cept was glass ones, and den he done tole me a lot dat went past me 'thout stoppin'.' Mister Doctor says, 'Look here, Aunt Paise, hain't bilin' whut you does best? Well, you bile dem glass bottles. Den you put 'em full of biled water up to here.' He showed me up to where. Den he said, 'Den you put in top milk to here, den you do dis, and so and such.'

"Well, dat baby commence to make out from den on. Hadn't been for Mister Doctor he'd 'bout died on dat di-luted milk in dem bottles dat hadn't been biled. I neber did let on to Mr. Steve but whut I fixed dat milk like Doctor Tracey said.

"Well, in 'bout a week's time, here come dat Doctor Tracey goin' on 'bout whut de baby

needed was veg'table extract. We neber had nothin' but vanilla and pep'mint, but I neber let on. I was waitin' to see whut would Mister Doctor George say. Den Mister Doctor come on out and he axt me did Doctor Tracey tell me 'bout fixin' up de potlicker 'thout any meat. I tole him, 'No, suh, and I neber s'pected him to, but I been knowin' dat's whut dat baby needed to hold hisself together!' Mister Doctor George says, 'All right, I'll tell you how we'll fix hit.' Well, I neber let on to Mr. Steve 'bout dat neither."

Mister Doctor's Time Had Come

Her arms flashed in and out of the thick suds as she went on remembering. "I 'member de day 'fore Mister Doctor died. I'd washed down at Miss Perkins—hit was on a Tuesday—and soon as I got done I went ober to Mister Doctor's. Rhody Bell met me 'round at de back door. 'Praise de Lord,' she says. 'Praise de Lord, Aunt Paisley, Mister Doctor George is better!' I jes drap down on de step like my legs had turn' to mush. I knowed right den dat de old Mister Doctor's time had come."

"But he was a lot better, Aunt Paisley," I reminded her. "Up until late that night they felt hopeful about him."

"Dat I know," she sighed, "but hit neber fooled Old Paisley. His bein' better was a mighty bad sign. He was gettin' better for de end. Now dey's no more like him left."

"Don't you suppose everybody feels that away about a doctor he's depended on for a long, long time?" I asked her, but she ignored my question. She didn't appreciate generalities where her Mister Doctor George was concerned.

"Dat was a man whut knew whut was whut," she continued. "Cawn-field shirts is for cawn-field hands, and spote shirts is for little spotes." She gave me a piercing look as if she feared the moral had been wasted.

"I tell you I didn't buy that shirt, Aunt Paisley," I told her defensively. "I didn't have one single thing to do with it."

Energetically soaping a pillow slip, she took up her song again. This time the deep water was cold and very blue, the same water of which she sometimes sang, "I got one more river to cross." Her voice had a note of confidence, of pleasant anticipation, even. There was mystery here, and a challenge to high courage, but so many whom she had known had crossed it valiantly.

> I'm wadin' deep water, don't you leave me.
> I'm wadin' deep water, don't you leave me.
> I'm wadin dee—"

She broke off abruptly. "De best lookin' line of wash eber I put out was at Mister Doctor George's. I done scalded my hand and hit made me miss washin' one week. Den I went back de next week, and Mr. Andy and his wife was dar, and de baby. I 'member dey was twenty-six shirts in de wash, and Mis' Apperson had put in a white coverlaid and two of de long Sunday linen table cloths, 'sides de reg'lar run of a two weeks' wash—sheets and towels and all like dat. I hung de colored clo'es on de chicken yard fence, and dar was my reg'lar wash-line 'thout one single smidgen of anythin' but dem white clo'es on hit."

She stood the washboard upright in the tub, and leaning her folded arms on it looked across the distance into the blue and white October sky. "Jes dat whole floppin' line of clo'es, all 'cross Mister Doctor George's big back yard, as white as white. White and spotless. Linen stuff and baby clo'es. Twenty-six white shirts like gentlemens wear. I couldn't hardly stand to go off and leave 'em."

Aunt Paisley's Heaven

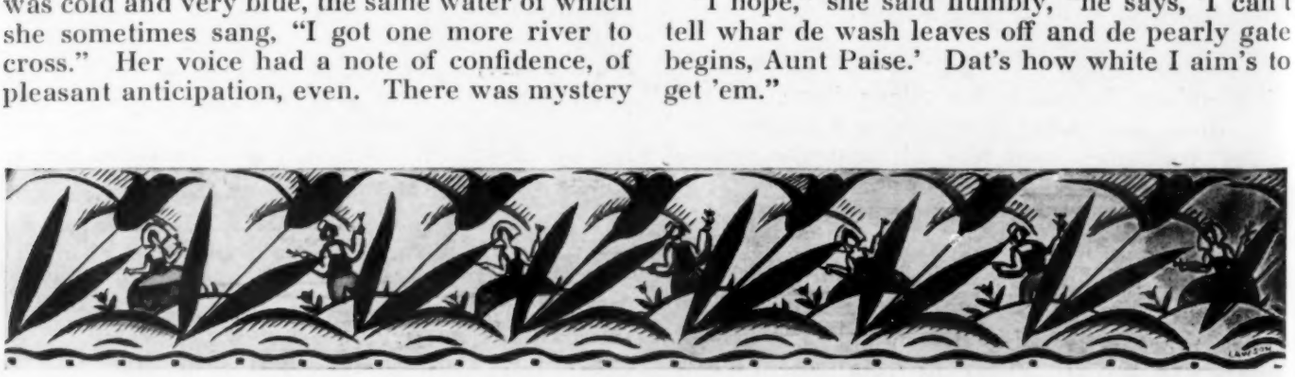
"That was your idea of Heaven, wasn't it?" I asked her enviously.

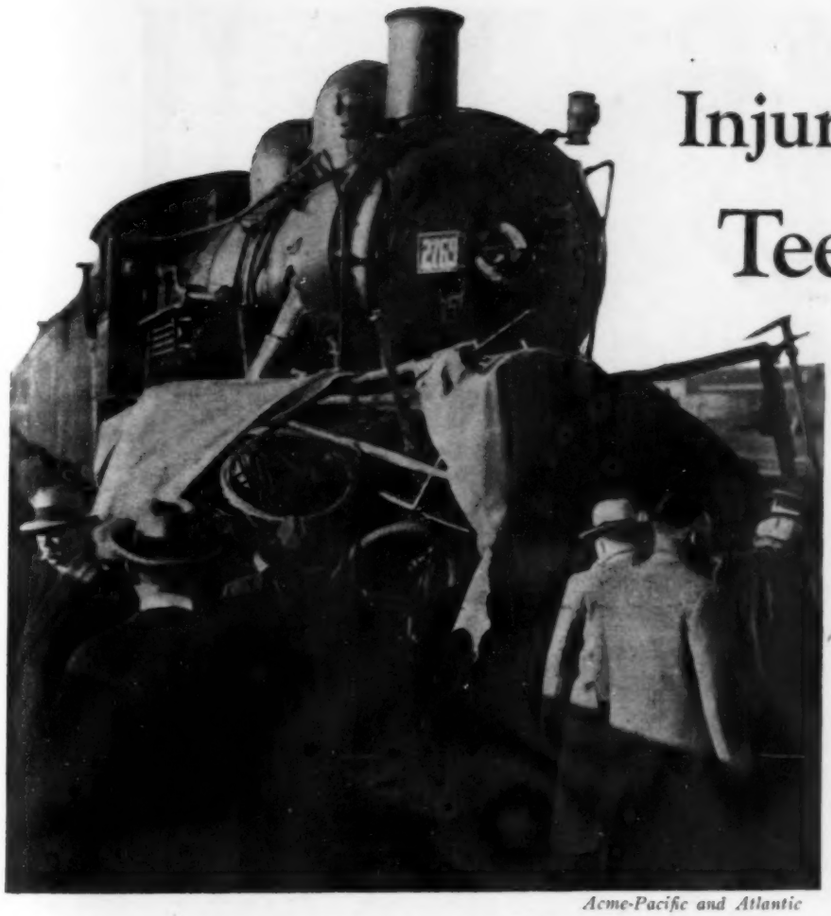
She laughed light-heartedly and returned to her rubbing.

"Dat's whut I'll do up dar," she exulted. "I hope dey let me have one wash day all to myself when nobody else's clo'es is out. My old hands itches to get at dem long white angel clo'es. Can't you jes see dem robes and things bubblin' up in a big gold bilin'-kittle? Rensin' in a silver tub? I hope dar'll be jes one robe too many for de wash line. I aim to hang me one 'cross de pearly gate—de pearly back gate. Den I hope 'fore time to take 'em in, Old Mister Doctor George comes by. Know whut I hope he'll say?"

I didn't.

"I hope," she said humbly, "he says, 'I can't tell whar de wash leaves off and de pearly gate begins, Aunt Paise.' Dat's how white I aim's to get 'em."





Acme-Pacific and Atlantic

When an auto meets a train in this fashion, a fractured jaw and other broken bones are the least that can happen.

Injuries to the Teeth and Jaws

By

Don C. Lyons

THERE are many things on which one might lay the blame for the steadily increasing number of accidental injuries to the teeth and jaws. The increased congestion of auto traffic, with its daily toll of injured, as well as airplane crashes, causes many dental tragedies. Rougher and more vigorous popular sports, crowded golf courses, swimming pools, sand-lot baseball, and playgrounds all contribute. Children playing on the sidewalks instead of on grassy lawns add to the list.

The more serious of these accidents consist in fractures of the jaws. This is the common occurrence in many auto and airplane crashes. Fractures caused by either vehicle accidents or sports usually involve the upper jaw rather than the lower, while those caused by ordinary falls and by fights are usually fractures of the lower jaw. There was a time when the surgeon seldom saw a fractured jaw unless it was due to a fight and as a result most of those fractures were single and clean cut. Today, fractures are often multiple and complicated by splintered jaw fragments, by cuts from glass and metal owing to contact with broken windshields and surrounding structures and the wounds are filled with dirt, bits of stone, grass or grease. Fractures involving the upper jaw are often complicated with nose injuries and sinus extensions.

The diagnosis of a fracture is simple. There is commonly a history of an accident, bruises and soreness. The jaws are deformed in that the fractured segment is out of position and the teeth will not come together. There is an abnormal mobility to the parts of the jaws and a sensation of grating (crepitus) when the two segments are moved against each other. Pain always results on manipulation and there is a loss of function of the jaws. The surgeon uses the x-ray to determine the type of fracture and to see whether there are fragments or involved tooth roots.

Not all cases of fractures are due to accidents. Extensive cases of osteomyelitis (a pus-forming necrosis of the jaw bones), large cysts, bone disease such as rickets and occasionally the extraction of a tooth will cause a fracture. One person recently reported a fractured jaw with this history: He was holding one of his children, a child of about 6, on his lap. The child had fallen asleep and awoke with a start just as the father was yawning. Its head came upward with a jerk and struck the father with a blow sufficient to break his lower jaw in the cuspid region. Another person heard a snap while he was eating, followed by a terrific pain, and the jaw became lax. An examination showed a large area of slowly progressing osteomyelitis, which had eaten away much of the jaw bone.

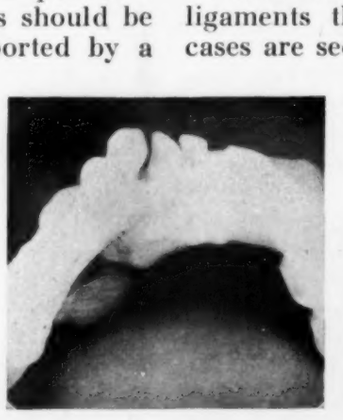
During the World War many fractured jaws with extensive loss of jaw-bone substance were seen as the result of shrapnel and gun-shot

Acme-Pacific and Atlantic

Airplane crashes have greatly increased the number of injuries to teeth and jaws.

wounds. In such cases the reduction, or correction, of the fractures without deformities was almost an impossibility but these experiences taught the dental surgeon much that helps in the treatment of the complicated fractures that occur today as the result of crashes at high speed.

The sufferer of a fractured jaw should receive immediate surgical attention but when there is necessary delay before attention can be received, the face should be gently sponged with an antiseptic solution and the mouth washed out with either a salt solution or a mild alkaline antiseptic mouth wash. Cuts should be cleansed as well as possible and sterilized with a standard antiseptic preparation such as a 1 per cent mercurochrome solution. The jaws should be placed at rest; they may be supported by a temporary bandage known as the four tail, which is made by taking a strip of bandage material about 3 inches wide and long enough to pass around the head and tie. Tear each end of the bandage, splitting it into 1½ inch strips and leaving enough material at the middle of the bandage to support the chin. Place the chin in the middle and then carry the two lower strips up over the head and tie; then cross the upper strips or tails over the lower and tie at the back of the neck. This is also known as the Barton bandage. The modified Barton bandage may also be used; it consists of another piece placed around the temples and connected with the side pieces, thus making sure that they stay in place.



Fractured jaw with dislocated fragments.

Dislocations of the jaw bones are uncommon, although there is as much possibility of dislocations following accidents as there is of fractures. Dislocations do not usually have as painful an origin as fractures. Many result from nothing more than a wide yawn or a laugh. A dislocation is simply the displacement of the condyle of the mandible (the part of the jaw bone that articulates with the temporal bone) without doing damage other than stretching the ligaments that hold it in place. Frequently cases are seen in which a person dislocates one side of the jaw at will without pain. In such cases even the chewing of food will throw the jaw articulation out of place.

Dislocations are not harmful even though they may be painful. Manipulation will bring the joint back in place. It should not be confused with the so-called snapping jaw, or temporomaxillary subluxation. This is characterized by a snapping sound at the jaw joints whenever the mouth is opened and the jaw bones are

moved. While it may cause a great amount of anxiety, the snapping jaw is nothing to worry about as long as it does not cause pain. It is due to a relaxation of the ligaments that support the lower jaw but it does not impair the efficiency of the jaws. One should use care in mastication and should avoid stretching the mouth, such as in yawning. It is well to advise the family dentist when he operates on the mouth or the physician if there is to be a tonsil or throat operation.

Injuries to the front part of the mouth and the teeth are the common outcome of falls and many sorts of accidents. One sees teeth broken or knocked out owing to so many causes that it would be impossible to enumerate them. One of the commonest causes during childhood is worth mentioning because it is so tragic to the well being of the teeth; that is the thoughtless trick of youngsters in school in hitting the back of a playmate's head while he is drinking at a fountain. In a surprisingly great number of instances this means a breakage or loss of front teeth. It is entirely avoidable if children are warned by their parents and school authorities. Children below the school age often come to their dentist with broken deciduous teeth caused by falls from scooters and kiddie cars, or even falls out of bed or from a slip in the bath tub or on the stairway.

In all cases in which these accidents happen immediate dental attention is necessary. Too often because there is no immediate pain the proper attention is postponed with the outcome that it is only a short time until the tooth develops an abscess and is lost; with immediate attention it could have been saved. As soon as possible after an accident the teeth and mouth should be thoroughly washed with an antiseptic mouth wash. Cuts should be cleansed and sterilized with an antiseptic and the person should avoid eating foods that require biting. Extremes in temperature as in liquids or foods should be avoided. Loose teeth should be carefully guarded from further shock and movement; many times it is possible to save what at first appearance seems to be a hopelessly loose tooth.

Torn lips or gum tissue should not be mutilated by indiscriminate trimming or cutting, because of the possibility of permanent disfigurement. Home treatment in such cases should be confined to temporary measures of relief until a competent dental surgeon or physician can be reached.

While one might not call such things as split lips, fever sores, bruises and cuts on or near the lips injuries to the teeth and jaws, they are closely associated. The split lip or cracked lip is a source of annoyance more than of pain. It happens in certain persons every time they get their lips chapped. Many start with a cracked lip early in the winter and suffer with it all season; if asked why they permit it to exist they may say that it isn't worth bothering about. They are wrong. These chronic conditions are often the beginning of cancer. Specialists in cancer repeatedly state that any sore spot, lesion, cut or skin abnormality that persists and refuses to heal normally for a period longer than two weeks is a potential cancer. That is why attention should be given to split lips, even though they are not particularly painful.

The scars caused by burns or accidents are disfiguring and the source of many possible changes in the health and beauty of the mouth as well as in the efficiency of the muscles of mastication. Scars from facial burns should be treated surgically, because they often limit the actions of the muscles of the face. There are cases in which almost complete atrophy of these muscles results from scars that act as a constant drag upon the action of the muscles. Scar tissue does not contain elastic fibers and it is hard and inflexible. Since it contains a limited supply of blood it is different in color from the rest of the face and it may be a source of later abnormalities in tissue growth. One well-known surgeon advises his patients to massage the scars and thus make them softer.

Courtesy Dr. C. J. Lyons, University of Michigan

At the left a good emergency bandage, the four tailed one described. At the right is the modified Barton bandage, which may be used with or without plaster.

The cracking or breaking of the teeth while eating is not uncommon, but such teeth have already been weakened in most cases by large fillings or decay. One should not delay dental treatment even though the break has not extended to a point at which the tooth becomes painful.

Although teeth are not constructed to chew nails their strength is surprising and it takes a lot to cause a normal tooth to break. An average tooth is composed of a substance that is elastic to some extent in that it is not brittle, and it is placed in a tooth socket surrounded by an elastic membrane which acts as a shock absorber (the

periodontal membrane). While it is said that the teeth can stand biting pressure as high as 400 pounds, this is not easily visualized. We appreciate the teeth more when we see acrobats swinging by their teeth and lifting heavy weights with their teeth in vaudeville shows and circuses. To be sure, this may be taken with a grain of salt for much of this strain is taken by the facial and neck muscles.

Dead Teeth Break Easily

As a tooth dies—when the nerves, blood vessels and pulp are removed or die owing to disease—its strength diminishes rapidly, and it soon becomes brittle and will break much easier than a live tooth.

Dentists have often wondered why persons persist in telling them that they have broken their teeth while chewing something soft, but they have found out that their patients have told the truth. A gum drop will break a tooth more quickly than a piece of tough beefsteak because the gum drop will squeeze into the fissures in the tooth and when force is applied by an opposing tooth it will exert much greater pressure than a piece of food that cannot press to the bottom of the fissure. The same principle exists as when power is obtained by placing water or air under pressure.

Accidental burns are often caused in the mouth by home remedies for toothache. A common remedy is carbolic acid. This potent drug is a powerful caustic and should be used only with the greatest care by skilful hands or terrible burns will result. It should never be used by parents to stop a child's toothache, for every dentist and physician who has many child patients can tell of tragedies that happened because the child jumped at the wrong time. A little oil of cloves will do the same thing without the danger of burns. Some of the patented home treatments on the market contain arsenic, which is extremely dangerous. The gums should not be painted with iodine that has remained in the family medicine cabinet for any length of time since iodine solutions contain alcohol which evaporates on long standing. The result is that the iodine which was bought as a 5 or 7 per cent solution may become a 25 or 50 per cent solution. In such cases it burns the tissue like fire.

Consult Dentist Before Buying Dentifrice

There should not be a mouth wash or a dentifrice in the home medicine cabinet that will harm children if swallowed, nor will there be if the family dentist is consulted before these preparations are purchased.

Goggles Help to Avert Accidents to Eyes

THE wearing of safety goggles saved the sight of at least 7,411 workers when they were struck by flying objects, fragments of metal, molten metal or injurious chemicals during the years 1926 and 1927. This is the story told by data compiled by 583 industrial firms that cooperated in a study made by the National Safety Council and the National Society for the Prevention of Blindness.

Millions Saved by Use of Goggles

It is of course impossible to calculate the actual value of an eye, but by considering the compensation required by law, the wages lost by employees, the cost of rehabilitation and incidental costs due to injuries, the investigators estimated that the cases studied represented a net saving to the employee, the employer and the nation of $46,000,000.

The number of workers considered in this study is, however, extremely conservative, the committee points out, as these figures deal only with accidents in which the person's goggles were actually damaged. There is no way of estimating the number of cases in which because of superior glass in the goggles the foreign objects glanced off.

Many firms reported that they had not kept records of such cases. Still another source of saving that cannot be reduced to figures is the correction of many eye hazards at their source by redesigning or guarding a dangerous machine or tool.

Eye Injuries Largely Preventable

Commenting on the study, Dr. F. Park Lewis, vice president of the National Society for the Prevention of Blindness, says "Innumerable persons, employers and employees alike, still do not realize, or do not believe that it is possible to prevent accidental eye injuries in the particular occupations in which they are engaged. Thousands of employers still regard as an unavoidable though evil necessity the payment of thousands on thousands of dollars for the destruction of injury of the eyes of their employees.

"That these are misconceptions; that industrial eye injuries are largely preventable; and that their prevention is productive of enormous saving to employer, employee and the nation are convincingly demonstrated in the findings of this study and the interpretation of their significance."

An Analysis of

The Hollywood Eighteen Day Diet

By
FRANCES B.
FLOORE

DIETING has become a popular fad in the past few years. To diet has meant to restrict the food intake in order to reduce the weight. On meeting with a friend whom you have not seen for some time, especially if it is a woman, greet her with, "Oh, but how much thinner you are than when I last saw you" and then stand back and watch the effect of your words. She radiates delight while she effusively thanks you and tells you that she has been on a strict diet and has lost just pounds! The ensuing conversation may disclose the fact that she has not felt very well lately, has seemed to tire easily and has been subject to colds and infections. Of course, she explains, the family lays it on to the dieting, but she knows better.

Diet Victims Are Numerous

It is unfortunate that dieting has become a fad, for because of it the art of dieting has fallen into disrepute. Every day we hear of a diet victim, a person who has lost health as well as weight and who has become run down, debilitated and nervous.

The question naturally arises as to whether one should go on a reducing diet or should let well enough alone and go serenely on, overweight and overeating. Statistics compiled by the insurance companies show that the slightly underweight adult has a longer life span than the overweight person. Obesity also predisposes to diabetes and the number of diabetic patients is alarmingly on the increase. The overweight person feels self-conscious and conspicuous and has difficulty in finding clothes that fit and look right.

With these considerations in mind, the doctor has advocated weight reduction for practically all obese patients and the dietitian has prescribed a diet accordingly. This diet has been one that is low in food value, or calories, but that contains sufficient bulky food in the form of fruits and vegetables to satisfy hunger. It is also complete in the essential minerals needed for bodily metabolism, and the person going on this type of diet will lose weight without injury to the body.

The eighteen day diet that has gained such widespread usage is a diet that has become popular because it has accomplished its purpose —that of loss of weight. The fact that it may, in so doing, have accomplished more than its purpose, seems to have drawn but little consideration.

Essential Elements Are Lacking

In analyzing the eighteen day diet, the following facts were brought to light:

1. *It is extremely low in calories.* This causes a too rapid loss in weight, and as a result the body becomes weakened. The muscles become flabby when there is a loss of 4 or 5 pounds a week, as they do not have a chance to readjust themselves to the sudden changes. Wrinkles appear to add age to the face.

2. *It is deficient in proteins.* It is only in rare cases in which there is a loss of kidney function that the doctor ever prescribes a diet that is as low in proteins as the eighteen day diet. The protein foods are meat, milk, eggs and cheese, and we need these foods in order to build and repair muscle tissue. Children and pregnant or

nursing women need large amounts of protein food to aid in growth.

3. It is deficient in calcium. Milk is the best source of calcium, and vegetables are next in line. Calcium is needed to build teeth and bones and to keep them in good condition. The amount of calcium that is needed is 0.68 Gm. daily. The minimum amount, or what is considered the very least that the body can get along with is, 0.45 Gm. The eighteen day diet contains 0.29 Gm.

4. It is deficient in phosphorus. The phosphorus requirement is 0.88 Gm. for the minimum daily allowance. The eighteen day diet contains only 0.5 Gm.

5. It is deficient in iron. The iron content of the diet is also low, being only 0.007 Gm., the requirement being 0.1. Any one who has worked in a hospital can testify to the large number of anemic patients. Foods containing iron that will help prevent this condition are meats, eggs, vegetables and fruits.

6. It is deficient in vitamin A. We know now that vitamins are essential constituents of the diet, and one of the most important is the fat vitamin A. This vitamin is found in butter, cream, whole milk and cod liver oil. Its chief duty is to build up a resistance to infections. In children who receive diets low in vitamin A severe inflammation of the eye develops. The eighteen day diet, being exceptionally low in vitamin A, cannot build up a resistance to infection and disease.

Content of Eighteen Day Diet

Day	Proteins, Gm.	Fat, Gm.	Carbohydrate, Gm.	Calories	Calcium, Gm.	Phosphorus, Gm.	Iron, Gm.
1	28.4	17.9	58.7	511	0.290	0.538	0.00645
2	38.3	15.8	64.5	548	0.630	0.006	0.00659
3	29.9	24.9	66.7	625	0.367	0.585	0.00616
4	50.3	11.1	71.4	588	0.417	0.610	0.00882
5	29.9	23.1	62.5	476	0.355	0.567	0.00593
6	21.1	12.0	63.7	452	0.207	0.372	0.00551
7	37.5	35.7	70.1	762	0.386	0.695	0.00740
8	32.8	23.1	73.8	637	0.341	0.628	0.01282
9	34.0	46.9	56.3	778	0.224	0.537	0.00623
10	21.4	22.3	57.5	512	0.258	0.427	0.00291
11	29.9	15.7	50.4	480	0.170	0.400	0.00548
12	39.9	33.1	76.0	737	0.295	0.602	0.00550
13	38.4	15.4	70.6	581	0.302	0.621	0.00686
14	35.8	15.1	65.4	542	0.149	0.326	0.00648
15	30.5	28.1	84.9	706	0.171	0.531	0.00629
16	41.4	19.9	42.9	516	0.213	0.599	0.01337
17	35.7	21.9	50.5	558	0.272	0.582	0.00594
18	32.5	12.2	53.0	451	0.209	0.522	0.01090
Total	607.2	394.2	1130.0	10561	0.5266	0.9138	0.12960
Daily average	33.7	21.3	62.8	586	0.292	0.507	0.00720

In summarizing the analysis of the eighteen day diet we find, then, that it is entirely unscientific and lacking in the principles that help to keep us well and strong. It is true that one will lose weight on this diet, but a too rapid loss of weight is harmful, and a starvation diet such as this one can accomplish no good.

Guarding the Country's Doors

WHILE public health authorities are taking disease preventive measures in the United States, the Immigration Service is guarding the doors of the country against the importation of disease from abroad. During the year ended June, 1930, not one case of quarantinable disease was brought in by immigration, reports Surgeon General H. S. Cumming of the Public Health Service. Examination of immigrants before they leave their home country and before they enter at our ports has revealed thousands of cases that might have entered.

During the year, 17,619 vessels were inspected on arrival at quarantine; 914,878 passengers and 1,163,915 seamen were examined. At insular ports, 3,026 vessels, 141,416 passengers and 216,326 seamen were inspected; 4,926 vessels, 514,590 passengers and 410,604 seamen were inspected at foreign ports before they embarked for this country.

Four vessels arrived at ports of the United States on which smallpox had occurred, and others came on which there had been outbreaks of cerebrospinal meningitis. In each case the infected passengers were removed at quarantine and passengers who had been in contact with the disease were detained for observation.

Many immigrants are vaccinated by our Immigration Service before they leave their own countries. Last year 56,115 Europeans were vaccinated; 74,509 were deloused and 96,381 pieces of baggage and clothing were disinfected.

More than 5,000 vessels were fumigated after they had been infested by rats or disease, and more than 14,000 of the rats found on these vessels were examined for signs of plague infection.

Medical examination of persons applying for entry is conducted by the Immigration Service of the Department of Labor cooperating with the State Department. This preliminary examination has prevented the entrance of many undesirables. More than 20,000 of the 156,370 persons who were examined in their own country during 1930 were found to have either mental or physical defects; 8,608 of these were refused visas for medical reasons. Only 23 of the 147,762 arriving at quarantine who had been given visas abroad were sent back to their countries because of disease.

SAFEGUARDING HEALTH AT A BOYS' CAMP

By

A. Mandelstam

Ewing Galloway

Bugler sounding the ever welcome lunch call.

HOWEVER the ideals of summer camps may differ, and on their differences values frequently are placed, the campers' good health and its preservation remains the dominant note in service regardless of all other aims. A system of health supervision that provides for the individual medical care of each camper should be of interest to both parents who place their children, and camp directors who care for them during the camping period, usually the months of July and August.

Most camps require a preseason medical examination of each enrolled camper. At the camp with which I am connected, the family physician of each camper, ten days prior to the opening of camp, is required to fill out a complete medical report.

Family physicians frequently ignore the separate items of the medical record and give a general approval of the applicant. To insure against this, our medical blank has been revised to require the signature of the physician below a statement that a complete examination of the camper was executed in accord with camp requirements. Thus, the camp authorities have available, prior to the arrival of a boy in camp, specific and definite data, with an adequate medical history for reference in possible emergencies.

Experience has shown that it is necessary to remind parents that these medical questionnaires are extremely important, and in the instances in which the medical sheets are not received within the time set for their return, a card or personal letter urges immediate attention to this detail.

Cases occur, in the face of all urging, in which parents fail to mail a medical sheet. In some instances, too, a sheet may be lost in the mail. To meet such contingencies, all children for whom there are no medical records are examined by the camp physician immediately on arrival at camp, and their medical record is completed so far as camp facilities permit. The medical history is requested from the parents by telegram.

Campers are distributed in tents and bungalows under the charge of mature counsellors whose duty it is not merely to assist in the direction of activities but to observe the campers' physical condition and to be watchful of signs of any illness. Each morning, before breakfast the counsellor is required to fill out a health report. He lists on the blank the names of the boys in his charge, designates their ailments by symbols and mentions any condition that requires attention. These daily reports are brought by the counsellors to the office where they are filed with the camp secretary.

The camp secretary lists the names of all boys who need medical attention and gives the list to the doctor, the boys having been informed previously by their respective counsellors to report for medical examination either immediately or after breakfast, depending on the urgency of the need.

Dear Parent:

The medical report, completely filled out by your physician, is an essential requirement of the camp.

Parents who fail to comply with such a regulation may unwittingly place themselves in a position of grave responsibility should a contagious disease in any form develop during the early session of the camp.

If then you have failed to send us your medical card after consultation with your family physician, please consider it an obligation so to do at once.

Sincerely,
CAMP W———.

Letter to parents calling for medical report.

The office has a chart that lists all the campers and provides in columns for all days of the season. In these columns each day are transcribed the health reports of the counsellors. If a report on a boy is missing, the chart shows a blank space. As a form of office routine, a note is promptly inserted in the counsellor's box and a messenger is sent on the counsellor's trail for the report. Within an hour after breakfast the office has a general health check on all campers by way of counsellors, and the office chart shows the report on each camper in tabular form.

The camp physician sees the boys whom the counsellors have instructed to report and makes out a record showing diagnosis and treatment. These reports of the doctor, with the latest one on top, are clamped to a board and they hang for reference in the office as a complete history of all patients treated.

When the doctor presents the results of his diagnosis and treatment, the symbol on the chart besides the camper's name is encircled in red. Letter symbols not encircled in red show that the camper has not been seen by the doctor. Both the office staff and the camp doctor are, therefore, on the lookout for the boy in order to complete the health record of the day.

On evidence that the boy has not reported to the doctor, the counsellor, if he finds it necessary, personally brings the boy to the doctor. It is seldom that a camper is willing to permit his attendance to take that form. Breakfast, lunch, supper and assemblies are periods at which the doctor is privileged to call names of campers whom he especially wants to see. Counsellors, the office staff and doctor thus share responsibility in the enforcement of necessary examinations.

The camp assumes, of course, that a counsellor's report is submitted in good faith and as a result of careful inquiry and observation. When such faith is misplaced, situations arise that expose the breach of confidence. If a boy reports to the doctor of his own accord, a note asks the counsellor to explain why he failed to record the case. The counsellor's statement may be adequate—his report may have been in prior to the development of the boy's ailment—but under any circumstances the counsellor is aware of the check. Thus, camp authorities intercept illness in its incipient stage. A boy who has coughed his first time during the night is, on the following morning, already in the care of the camp physician.

The doctor, after examining the boy, tells him what he may and may not do, and at the same time records the limitations that are imposed upon the boy's physical activities. These instructions are sent to those counsellors who can best check on the patient. The chief of the water staff, the chief of the land staff and the boy's counsellor are all informed so that the boy's activities are limited in accord with his needs. The policy of overlapping orders is considered a desirable safety control in the life of the camper.

Counsellor's Daily Health Report

JULY 18 1930 AUG. ——— 19 COUNSELLOR G. Roth.

CAMPER	Health	CAMPER	Health
J. Anderson	O.K.		
R. Black	C		
M. Kinman	F		
B. Fisch	O.K.		

REMARKS:

SYMBOLS:—Health: eye cold..A; ear cold..B; throat cold..C; cough..D; boils or skin infection..E; teeth not cleaned..F; constipation..G; bruise or cut..H; special..J; infirmary..K; out of camp ——

A camper who has a slight temperature or indisposition is immediately removed to the hospital quarters, a special building that can care for fourteen campers at one time. These boys are not all confined in the hospital for the entire

To Dr. W. Aug. 4, 1930
Ernst, F..... H (on knee)
Lippman, ... D
Stone, L..... C (slight hoarseness)
Wellen, L..... G

Notations from counsellor's daily report.

day, but for sleeping they report to it until fully recovered.

Two nurses supervise the hospital and determine whether the boys are conforming to the requirements set by the doctor. If not, all the counsellors involved, who have had their definite instructions, are called on to explain. Thus the doctor finds that his directions are well observed.

———, 1930

Dear ———,

You failed to report this morning on the condition of the health of ——— ———.

Our first obligation to our campers is the preservation of their good health. Your daily morning report is a valuable element in our system of health supervision, and we expect your prompt cooperation.

We are waiting for the missing report. Please bring it to the office immediately.

CAMP W———.

Check-up on counsellor's failure to make report.

On the preventive side, the counsellors are required each morning to see that the boys wear waterproof shoes, at least until the dew is off the ground. In the evening, the counsellors see that the children are warmly clothed, to conform to the change of weather conditions.

Children who play under nervous tension are required to take longer rest periods. At our camp the mornings are used for educational interests—art, music, theater, nature—and in the course of the day these less vigorous interests serve as a natural control on the expenditure of physical energies.

A control of food values is exercised in special instances in which weight control is a question. These instructions overlap by way of the table counsellor, the tent counsellor and the camp physician.

This may all seem a cumbersome system and out of proportion to camp needs, but as a matter of fact the detail of its operation devolves on a clerical assistant, and one extra person is well worth the cost of the director's free time to mingle with the campers. Certainly it is gratifying to the director to be able to enter the office and within a period of five minutes or less see a complete record of the camp, in this instance from the health angle. Here are the counsellor's reports charted on record in the column of today's date. Did a counsellor fail in his duty? The chart shows the omission. Here is a notation not encircled. The doctor evidently has not seen this boy. Here is a boy who has seen the doctor three consecutive days. What story does the doctor's report give? Less than five minutes' time are expended to get a complete view of camp needs, at least on the matter of health.

A parent can enter the office and without delay find available complete data concerning diagnosis and treatment, day by day. Camp records give weights of boys (determined every two or three weeks); water and air temperatures at all swims are also available.

Parents receive advice from observations made in the course of the season. There is an accumulation of data from which inferences are drawn. Fifteen parents were asked to have their children examined for a possible sinus condition, the suggestion having been based on nasal discharges and nasal speech.

An outside physician is called to confer with our own physician in all the hospitalized cases, so that parents will feel reassured in the knowledge that the diagnosis is confirmed.

A natural spring, which is piped to different parts of the grounds, is frequently analyzed to determine the quality of the drinking water. The lake water in which the boys bathe, though not used for drinking, also tests pure. All other sanitary needs that public hygiene requires are adequately met in plumbing facilities; there are septic tanks for refuse and flush systems.

Visitors This Morning:

Buxbaum, S.....	abrasion dressed
Ernst, F.....	temperature normal cold—NO SWIM
Lippman, A.....	infection of scalp treated
Stone, L.....	hoarseness, throat sprayed
Wellen, L.....	DID NOT REPORT

Visitors Yesterday After Lunch:

Frank, K.....	temperature normal condition improved
Winter, M.....	improved, discharged

S. M. W., M.D.

Camp physician's daily health record.

The camp physician, assisted by two trained nurses, has his own fully equipped office. The

———, 1930

Dear ———,

——— ——— did not report to the camp doctor this morning, although you indicated in your Daily Health Report of this morning that he required medical attention.

Please see that he reports to the doctor immediately. Also, please advise me the reason for the boy's negligence.

CAMP W———.

Rounding up the recalcitrant camper.

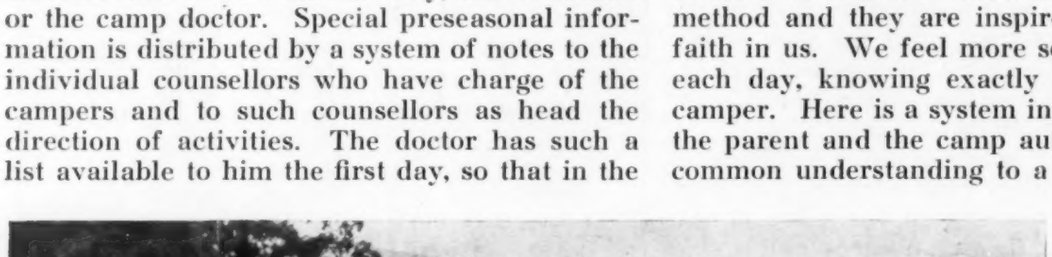
hospital building has four large sunny rooms with plumbing arrangement for hot and cold water, bathing and toilet conveniences and a kitchenette. The separate rooms afford limited isolation, but there is another building, also fully equipped, that serves as an isolation ward for any suspicious case of illness. The entire unit of hospital buildings is at the extreme end of the camp grounds, facing the lake, but removed from all camp activities and the accompanying noises. Though isolated, the beach with its sun bathing is available to the convalescing camper.

Buildings on the grounds take care of the entire camp, in small groups, under cover, if inclement weather makes the usual program of outdoor activities inadvisable.

Independent of the records tabulated by the camp physician from the medical reports submitted by parents prior to the opening of camp, the camp director has his own card file in which are recorded the special requests and needs of parents and family physicians. These cards are tabbed to facilitate regular reference to them, and a checkup is periodically instituted to show whether the requirements are being met. The director interviews either the boy, the counsellor or the camp doctor. Special preseasonal information is distributed by a system of notes to the individual counsellors who have charge of the campers and to such counsellors as head the direction of activities. The doctor has such a list available to him the first day, so that in the process of his first adjustment, he will have a summary of data immediately for reference. To illustrate:

Arthur Baker may have suffered from a mastoid infection during the spring. Under the circumstances, his physician instructs him not to dive. This notation is in the hands of the chief of the swimming staff with the opening of camp. The counsellor immediately in charge of Arthur also has this information, and the card of this boy carries the notation. Once every week, the camp secretary places a note in the box of all counsellors who have been called on to exercise a control, inquiring as to how well this restriction is being carried out. This overlapping supervision is instituted in cases in which boys are required to observe special rest periods or are to have milk during the afternoon.

In this way, our camp attempts to fulfil its first obligation to the campers, for what can a camp do to serve well its campers unless it strives first to maintain them in good health? Our present system of control has enabled us to do this adequately. Many years of experience attest this. Parents know and understand our method and they are inspired to have greater faith in us. We feel more secure at the end of each day, knowing exactly the status of each camper. Here is a system in which the camper, the parent and the camp authorities work in a common understanding to a common end.



Ewing Galloway

The camp's first obligation is to keep the boys in good health. Then they can enjoy all the activities provided.

The Bedside Test

By Louise P. St. John

FRIENDSHIP, unlike the quality of mercy, is often strained. If there is a more severe or accurate test to which it can be put than a long drawn-out illness it is yet to be discovered.

To be attentive and gracious for a short period is easy. The least stable friend in cases of acute sickness will dash to the hospital with an armful of flowers or a basket of fruit and many glib "so sorrys" and "too bads." She rather enjoys it. The drama of the situation stirs her. There you are, pretty sick; you may get well, and then again you—.

But there is little that is dramatic about a visit to a tuberculous patient. It is the same this week, next month, next year. Drama does not consort with monotony.

Visitors follow varied patterns. Immediately after the breakdown—if one cures at home—in addition to the close friends who are truly concerned there is the onslaught of the curious. Avidly they drink in every tiny detail that they can squeeze from the patient and his family. They drink it in for back-fence broadcasting or for the Circle meeting on Tuesday. They ominously shake heads and say, "Well, if you ask me, it won't be long now!"

There is the Professional Cheerer. If justice has not fled the earth and Nemesis pursues one to the nether regions an especially torrid corner of Hades is being reserved for him. No matter how low one may be, he rushes blithely up to the bed, wrings an emaciated hand, beams in a pseudo-cheery manner and proceeds with his stereotyped speech.

"Well, well, old fellow, you're looking great! 'Pon my word I do believe you've gained pounds since I was here last. Won't be long before you're out of here and back to work like the rest of us poor devils."

The patient interrupts this Pollyanna with a terrific cough that leaves him spent and gasping. But the P. C. ignores it.

"Can't fool me; never thought there was anything the matter with you when you came here. Just playing 'possum. It's a grand way to loaf if you can get by with it. But you can't expect any sympathy out of me. A big, husky bozo like you, in bed! It makes me laugh!" He guffaws raucously and departs with "See you in a couple of weeks unless by then you've gone back to Texas to start your spinach crop."

Tuberculosis is enough to bear without having to take on the P. C.

Such was the experience of a man in a California sanatorium. The P. C. was a member of a committee appointed by a civic organization to pay semi-monthly visits to the sanatorium. When the pa-

tient was asked why he permitted the P. C. to continue his odious calls he answered, "Because he gets such a kick out of it. I haven't the heart to tell him to quit. Why, for two weeks he feels virtuous as hell! It would be positively wicked for me to rob him of that smug, self-satisfied, complacent feeling that he gets from these Sunday afternoon calls."

All patients are not so long-suffering as the courteous Texan. Others feel, and rightly so, that tuberculosis is enough to bear without having to take on the P. C.

Exhausting Visitors

If visitors could only realize that the thing the patient least wishes to discuss with them is his health. The weather—bromidic as it is—books, local politics, anything is preferable to being quizzed about one's condition. That is a subject for one's physician, nurse, family and at times fellow-curers, but never for passing visitants.

The most exhausting type of visitor is the dynamic, vivacious person of robust constitution who teems with energy and health. In some inscrutable manner, and wholly unconsciously, he saps the last vestige of strength from the enfeebled patient. Thirty minutes' conversation with such a person leaves the sick person weak and exhausted. Whether it is the effort exerted by the patient to match the vivacity of his guest or whether it is the excitement produced by the sudden galvanic invasion from the outside world of his quiet porch one cannot say. But it is indubitably true as those who have experienced such visits will confirm. And, alas, that this should be the most charming, the most entertaining visitor who passes his door. Eagerly he watches him come; limply he sees him go. Like a host of other pleasant things the vivacious visitor is bad for the patient.

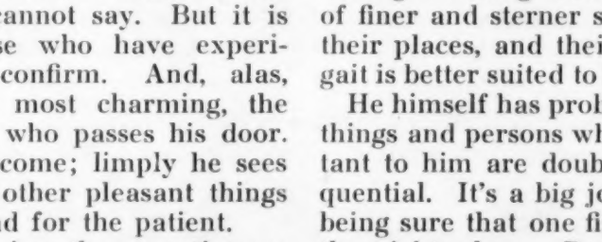
Nothing is more fatiguing than continuous animated talking. Only slightly less exhausting is listening. Whether or not one realizes it—and one usually does not at the time—talking and concentrated attentive listening are a tremendous exertion for a bed patient. The caller who keeps up a constant stream of fast conversation takes more out of the person in bed than he can regain in many rest hours.

The visitor who is a real boon to the tuberculous patient, a factual aid in his recovery, is the quiet, low-voiced, understanding friend who pays regular but brief calls to the screened porch. He is calm and passive; he talks not of exciting things; he does not drag the village gossip into the clean-scented quarters of the sickroom. He does not talk about his own troubles. And what is infinitely more, grâce à Dieu, he does not talk about the patient's troubles. But he does talk about the things in which the sick person is interested. He talks of the patient's hobby—radio, books, flowers, whatever it may be. He leaves him refreshed, stimulated and happy. Of such understanding and companionship are cures made. May this thoughtful visitor's tribe increase!

New Friends, New Values

For him who reaches arrestment with an entirely different set of friends from those he possessed when he went to bed let there be no tears. If certain ones in the selfish pursuit of their own desires forgot him, if they failed to give of their time and attention and devotion when he was down and had nothing to give in return, then they no longer deserve the name of friends and it is well to check them off. Happily, during the long months of curing new friends of finer and sterner stuff have emerged to take their places, and their moderate and tempered gait is better suited to him than his pristine pace.

He himself has probably shifted values. Some things and persons who used to be vastly important to him are doubtless now almost inconsequential. It's a big job—that of revaluation, of being sure that one finally has the emphasis on the right place. But it is one happy logical result of curing—finding one's self and one's friends. A great study in wheat and chaff! And, as a perquisite, one achieves the perfect bedside manner to be practiced on friends who in future may fade temporarily from the screen.



Ufa

In a venereal disease clinic.

SYPHILIS—The Unfortunate Disease

By A. Lee Briskman

IT HAS truly been said that war and syphilis are the two greatest enemies of mankind. A great deal of the misery in the world is due to the prevailing ignorance and the indifference with which sexual matters and venereal diseases are treated. One can hardly be expected to avoid coming in contact with this unfortunate condition. We cannot "high-hat" syphilis any more than we can "high-hat" tuberculosis, but we can prevent both of these diseases.

The earliest accounts of syphilis are found in the medieval records written in China in 2,000 B. C. The ancients did not clearly differentiate between syphilis, leprosy, eczema, scabies and other skin diseases, but the study of the bones of prehistoric man seems to indicate that syphilis existed in those days.

Syphilis was first studied and described in Europe about the end of the fifteenth century. After the siege of Naples in 1495, Charles VIII of France dispersed his troops and the disease spread throughout Europe like wildfire. There is a question as to whether or not Columbus introduced syphilis to Europe when his sailors returned from the western hemisphere.

In 1530, Fracastorius published a poem the hero of which was a herdsman named Syphilis, who had contracted this disease. After the herdsman in the poem the disease received its name.

Early stages of syphilis have been recognized for some time, but syphilis of the nervous system (locomotor ataxia and paresis) was not looked on as a venereal complication until 1894. In 1905 the spirochete, or the specific organism responsible for syphilis, was discovered.

In this country more than half a million cases of syphilis are constantly under medical care. About 30 per cent receive attention and treatment in public clinics, while the remaining 70 per cent are treated by private physicians. Syphilis ranks either first or second among the most frequently reported infections, ranking with measles in frequency. Gonorrhea is fifth.

Osler said, "Of the killing diseases, syphilis comes third or fourth." His reinterpretation of statistics made him place it first among medical causes of death. It easily leads all the infections, including pneumonia, which Osler himself named "the Captain of the Men of Death."

Downing placed syphilis fourth (one death in eighteen) being preceded by cancer, tuberculosis and pneumonia.

It is estimated that from 2 to 5 per cent of all persons having syphilis develop general paralysis (paresis, dementia paralytica). Syphilis is responsible for 11.8 per cent of deaths from diseases of the nerves and blood vessels. Probably 95 per cent of all premature deaths and stillbirths are the result of syphilis.

It is unfair for one with syphilis to refuse advice or treatment on the basis that if he cares to risk the consequences of an untreated case it is his personal privilege to do so. The answer is that this is not a personal problem. The untreated patient becomes a menace to society, a burden to the government, and a source of misery and disgust to himself.

The accompanying tables show the extent of syphilitic involvement of various organs.

TABLE 1.—*Osler's British Mortality Statistics in Terms of Syphilis*

	Total Deaths	Deaths from Syphilis
Diseases of central nervous system:		
General paralysis	2,263	2,263
Locomotor ataxia	735	735
Apoplexy	25,423	3,000
Softening of the brain	1,472	500
Paralysis without special cause	2,983	500
Other diseases of nervous system	15,000	2,000
Diseases of the blood vessels:		
Aneurysms and inflammations	1,141	1,000
Heart diseases	56,000	5,000
Diseases of the arteries	10,000	3,000

TABLE 2.—*Incidence of Syphilis Among 17,757,551 Persons*

	Male	Female	Total
Early stage	15,441	7,718	23,159
Late stage	27,631	19,138	46,751
	43,072	26,856	69,910

How is syphilis contracted? It is always due to inoculation with the spirochete. This organism enters the body through abrasions in the skin. Wherever the organism comes in contact with the body, there we expect to find the initial lesion, or sore. The most frequent source of infection is from the genitalia but extragenital lesions do occur. Occasionally we see a person with a sore on the lip, the tongue and the cheek.

The course of syphilis may be divided into three stages: the primary, the secondary and the tertiary, or chronic, stage.

The primary stage is often the only stage that is recognized by the patient. A hard sore, or chancre, arises at the point of inoculation with the spirochete. This is the first sign of infection. Often times the patient overlooks it. After the spirochete enters the body the cells try to wall it off and prevent it from spreading. As a result of the fight between the spirochete and the body cells, the chancre forms. When it appears the person has had syphilis for three weeks.

During this three week period the few spirochetes that entered the tissues have already multiplied and overcome the normal defenses of the body. They leave the chancre, which will then disappear of its own accord, and they spread along the lymph stream to the nearest gland. The gland tries to stop them from going farther, by filtering out the poisons that enter. Soon it swells up from the infection, is unable to check the invading forces and the spirochetes pass along to the next gland, soon involving all the glands in the vicinity, until the organisms finally get into the blood stream. Then the spirochetes circulate all over the body.

The infection is then in the blood and the second stage begins. The primary stage lasts from six to ten weeks, three weeks before the chancre appears and from three to seven weeks until it disappears. So you can see that when the chancre appears the infection is already well on its way in the body. Burning the chancre off or treating it with caustics does no good. It will go away by itself if let alone. Disappearance of the sore means that syphilis has disappeared—into the body.

The spirochetes are now in the blood stream and travel to every part of the body. The Wassermann test becomes positive. The patient develops a fever, weakness, headache, sore throat, head cold, sore eyes and running nose, This is due to the germs in the blood. He thinks it is a cold or a "touch of the grip." Then he becomes anemic and sometimes jaundiced. His hair starts to fall out. A skin rash follows sometimes, and when it does it is hard to differentiate from measles.

If the patient goes to a doctor and, when questioned, denies having had a chancre, either because of pride or because he was unaware that it was present at one time, the doctor is likely to make a mistake in diagnosis, especially when the Wassermann test is negative, as it sometimes is.

Then appear the mucous patches, large ulcers on the membranes, especially in the mouth. These ulcers are alive with spirochetes and are

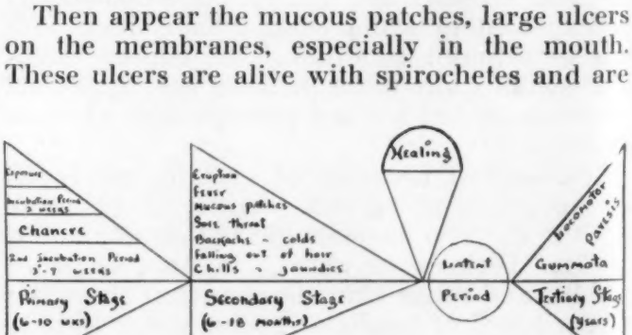


Diagram showing stages of the disease.

easily spread through any medium with which they come in contact, as towels, drinking cups, pipes and tooth brushes. At this stage the disease is highly contagious and the individual is a menace to society.

The second stage lasts from six to eighteen months and the symptoms may be either mild or severe. Then the spirochetes leave the blood and the tertiary, or chronic, stage may or may not follow.

The lesions of the third stage are called gummata, because they are soft and gumlike. They may be found anywhere in the body—on the liver, in the bones, on the brain (causing symptoms of brain tumor), or in the heart.

Ufa

A lecture and exhibit hall on venereal disease.

No time limit exists for this stage. It may never occur but when it does it is not contagious. The physician hopes that early, correct and vigorous treatment will prevent the disease from entering into the chronic stage. A year may elapse, sometimes ten years, before the last stage appears. Nerves and spinal cord become involved. Locomotor ataxia results, sometimes paresis, and too often both appear on the scene to remind the unfortunate that "As ye sow, so shall ye reap."

The presence of the chancre is usually sufficient for a diagnosis. But when it is overlooked and the acute tage is passed, the diagnosis becomes difficult.

In 1900, Bordet and Gengou discovered certain definite changes in the blood of persons with syphilis. In 1906, Wassermann perfected their discovery and today we have the Wassermann test. If examination is made directly from the chancre or mucous patch, the spirochetes may be seen under the microscope.

Sir William Osler said, "Know syphilis in all its manifestations and relations and all other things clinical will be added unto you." Each case is an individual problem in itself and each doctor has his own methods. A general review will include the entire curriculum of treatment.

Mercury was used as far back as 1495. It was rubbed into the skin for all skin diseases. Early in the nineteenth century iodides became popular. To the present day, mercury and iodide is a strong combination in the armamentarium of every physician who attempts to treat syphilis. Ehrlich dreamed of a drug that would sterilize the blood in a single dose. He made an arsenic preparation which he called arsphenamine. It is also known as "606." It was marketed in 1910. Later he prepared a less toxic form which he called neoarsphenamine. The preparations of bismuth are becoming popular at present for treatment of the chronic stages of the disease.

For syphilis of the central nervous system, tryparsamide sometimes acts like a miracle. In one state institution it restored 40 per cent of the mental patients to working condition. It has a remarkable tonic effect. Some patients gain from 10 to 30 pounds. Usually the mental restoration is sudden and the patients can fix the time to a day when they became mentally clear. They describe it in such terms as these: "The veil lifted" or "The mist rose." There is also the fever treatment, such as inoculating a patient with malaria or typhoid. The high fever is supposed to help the body in overcoming the infection. The induced fever must be controlled, of course. This is only used in certain selected, far advanced cases.

Is syphilis ever cured? Most insurance companies require a period of from four to five years after the disappearance of symptoms before they consider a person cured. Marriage is not advisable until Wassermann tests have shown negative results for about two years.

Should AGE Be the Only ENTRANCE REQUIREMENT to the Great and Grand Game of AMERICAN EDUCATION?

Photo Courtesy Iowa Child Welfare Research Station

The Preschool Years

By Russell Burkhard

IN TERMS of results there appears to be quite a bit of uneasiness at the top end of our educational ladder. Solid, constructive thinkers are seriously questioning results. Prof. William Starr Meyers of Princeton, for instance, expresses it this way, "Not one student in ten knows what he is going to do when he graduates from college, and many delays and misfits are the results." Chancellor Elmer Ellsworth Brown of New York University declares, "There is a great need of wisdom and information in the matter of guiding our American youth so each may make the most for himself and society. It goes to the core of society. In the colleges we are fumbling a good deal with the question of such guidance." At Yale, President James R. Angell admits the issue and says of it, "We are struggling with the problem."

In the University of Wisconsin, President Glenn Frank is conducting an heroic experiment. There, Dr. A. Meikeljohn offers to a group of freshmen and sophomores any method of instruction most suitable to meet individual needs. Dr. Sidney Edward Mezes, formerly president of the College of the City of New York, in referring to preparation of young people for the right career admits that "less intelligent and informed foresight is exercised in this than in any other matter of lifelong importance, unless it be the choice of mates by young men."

Not Merely a College Problem

Well may we ask, "Is not this purely a collegiate problem?" But by dropping down a bit into the secondary field our observations disclose that, if anything, the situation is more intensified.

In American education from elementary through the secondary schools, where pupils' ages range from 5 to 20, the complexities arising are terrific. Educational and vocational guidance structures have been woven into school

programs in an effort to solve some of the vast number of problem cases.

Prof. Harry Dexter Kitson of Teachers College, Columbia, declares after many years of vocational study: "The best service we can render by way of guidance is to investigate the occupations, get exact knowledge about them and then organize our efforts so we can pass on that information to young people who must choose their vocation. We should study the histories of workers, tabulate the facts about their vocational progress, and then impart the information to the person who is about to make a vocational choice. When this information is secured, at great labor, we can give up the spectacular pigeonholing kind of vocational guidance that is generally expected of us. Nevertheless, this method will provide us with sure information and enable us to answer more definitely the question of modern youth, 'What shall I do, and how shall I prepare to do it?' "

Preschool Age Is Vital

Let us divide the first eighteen years of life into three spans. The first, from birth to the school gate, is the preschool period; the second the elementary, and the third the high school period. In the last two spans, society through its control units, or schools, is afforded an opportunity to observe and to know the children therein. With this knowledge achievements are actually taking place. We are somewhat startled, however, when an authority such as Arnold Gesell of Yale says of the preschool period that, "It is the equal of any double span of time to follow." This and William A. White's statement that "this age is called the golden period of educational possibilities" make logical the question What is society doing with this period if it is so vital?

Age Is Only School Requirement

The Sheppard-Towner maternity act of 1921, with several other activities in child welfare, indicates that the national government is at least aware of the possibilities. Here and there throughout this country we have bright spots of local action in the preschool field. The situation in England may be said to be considerably in advance of that in the United States.

But as concerns the schools, this massive group of 20,000,000 preschool children is a decided mystery. Each year, 3,000,000 strong, they knock at our school gates for admission, with chronological age as perhaps the only entrance requirement for the great and grand game of American education. Of their skills, abilities, attitudes and aptitudes we know almost nothing. The sorting, the recognition of individual differences must all come later, if at all. The element of chance plays too big a part in the first school contact of this gallant army of youngsters.

A year passes, and of the original 3,000,000 approximately 25 per cent repeat the first grade. This mortality in its sum total of disappointment and economic loss comes near to being a social tragedy. It is really remarkable that the first-

Photo Courtesy Iowa Child Welfare Research Station

The preschool years are the period of most rapid and fundamental growth, both physical and mental.

grade teachers achieve so much with a group about which so little is known. Being maladjusted from the start, this 25 per cent of repeaters may continue to create problem situations throughout their entire educational careers. As individuals they tend toward antisocial classification when in reality we might call the entrance situation an abnormality of the first order.

Education Needs Scientific Start

Who would organize a grueling auto race, invite contestants, and demand no qualifications other than merely pilots and automobiles? To fail to specify certain requirements of piston displacement, power, chassis specifications, speed, stamina and driving experience would be to make the race chaotic. Unquestionably, for an undertaking of this sort, lack of requirements is undesirable. And yet have we not been doing just about that sort of thing in starting youngsters in the educational race?

The mastery of certain fundamental skills and the creating of certain stable social attitudes are relative goals. Some children need more activity in these lines than others. But just how much more can hardly be determined by scanning the child's external surface and knowing his age in years. There ought to be important factors that we could get from his preschool experiences if these first six years are what certain clear thinkers would have us believe. With these factors we ought to give the youngster a more scientific start in the race, so to speak; so much that it might radically affect all our guidance work to follow. Indeed we might even be optimistic about results at the upper end of our educational structure. The lament of our collegiate administrators might even change to a "Eureka."

In our search for helpful preschool information there are several agencies whose aid we can attempt to enlist and coordinate. They are the home, the child welfare units—as the baby clinics and visiting nurse association—the school doctor and nurse, the local department of research and guidance, the nursery school and the kindergarten. Some communities have already made use of these social instruments to summarize usable material. When it has been done intelligently the results have justified themselves scholastically and economically.

The home can contribute data concerning the child's developmental life to date, as well as family history involving economic and social conditions. Furthermore, there is presented an early opportunity to strengthen the home-parent-school relationship on a cooperative basis rather than to bring about a relaxation there.

Doctor and Nurse Can Aid

The school nurse and doctor, by means of periodic physical examinations, can present the physical-hygiene situation in summary form and accomplish much in remedial suggestions to the parent. This will prevent certain negative physical conditions from gaining a foothold on the child. Necessary corrective work can be urged before the child enters the first grade.

The department of research and guidance, by clinic examinations, can present data relative to the mental hygiene of the child, and also make remedial suggestions to the home.

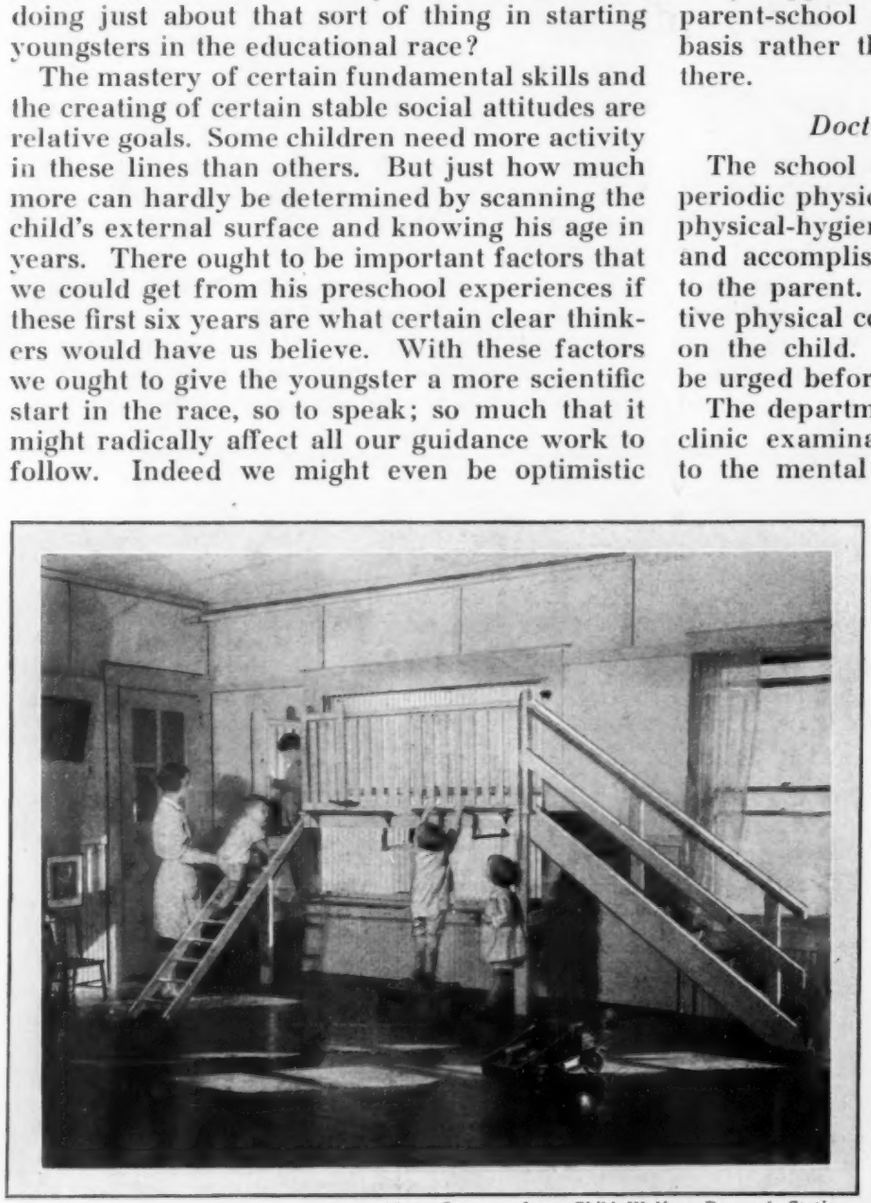


Photo Courtesy Iowa Child Welfare Research Station

The mastery of certain fundamental skills is a goal of the nursery school.

The nursery school and the kindergarten can stimulate right behavior in work and play, establish right health habits, and create helpful emotional attitudes. A summary of the child's responses in these schools would be of benefit for the educational offering to follow.

A cumulative record card could briefly summarize all these contacts in such a manner as to be usable in making the child's first grade contact a happy and better one.

Recently a first-grade class in a prominent city of Massachusetts was sampled to determine the range of skills and aptitudes of the entering youngsters. It was found after some effort that twelve of the group of forty-two had reading

skill equal to a grade one-half year above. Six had an informal number concept of the same level. One had the reading and number skill of the second grade. Two could play the piano. Four were material for special class work below the standard. Three were repeating for various reasons. The others distributed themselves normally as first graders.

The I. Q. range was from 72 to 136, and the ages from 5 years 3 months to 7 years 8 months. The scope of social attitudes, of course, varied as with the actual number. It is evident that as these facts were disclosed the group was readjusted as well as possible under the congested conditions to meet the individual differences. This circumstance is multiplied many, many times. Valuable weeks are lost and much energy is consumed in heroic efforts to know the entering groups, when right under our very noses these children could have been intelligently observed at not too much trouble and expense.

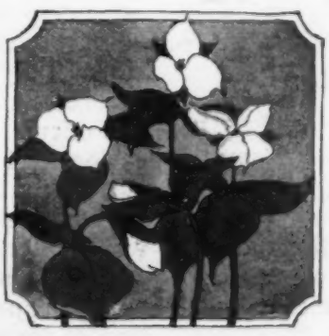
Photo Courtesy Iowa Child Welfare Research Station

The nursery school can stimulate the right behavior in work and in play.

It is not advocated that we build up an elaborate system of nursery schools and clinics or that we revamp our kindergartens. Our present machinery is adequate to secure much in the way of material from the preschool child and that will be helpful in future guidance work. And as the results become evident, as they probably will, let expansion then take place gradually.

In conclusion let me quote again from Arnold Gesell: "Developmentally, the child is indeed rather a well-finished product when his six-year molars appear. The preschool years are incomparably the period of most rapid and most fundamental growth, whether physical or mental. Biologically, the preschool age is most important for the reason that it comes first. Psychologically, the preschool years are basic because the foundations of the structure of personality are then laid. Medically, the preschool age is critical because it exceeds all others in mortality and morbidity. Not only most of the defects of school children originated in the preschool period, but also the mental. What is more important, most of these abnormalities are recognizable in the early years. Child consultation centers could be of significance in gathering data from the preschool child for the public schools."

Therefore it would appear logical to expect that counseling and the organization of guidance, in both private and public schools, would function better as it attempts to tap the resources of the preschool field.



What Sort of a Tumor Is This—

Is It Cancer?

By ROBERT A. KILDUFFE

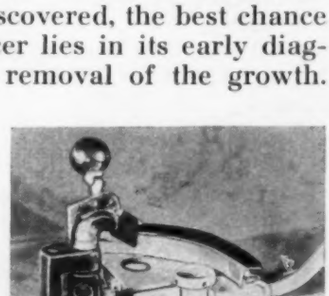
Microscope set-up for tissue examination.

TO MANY persons the words "tumor" and "cancer" signify the same thing—an assumption far from correct. "Tumor" is derived from the Latin and means simply a swelling. "Cancer" comes from the Greek word karsinos, meaning a crab, and signifies a malignant growth.

Since cancerous growths form masses, all cancers are in a general sense tumors, but all tumors are by no means cancers not even when they result from excessive tissue growth, for many such tumors possess no cancerous or malignant properties and are not in themselves dangerous to life.

Whenever a mass, a tumor or a growth is discovered, therefore, it becomes of the greatest importance to the patient to discover its nature for, until the cause of cancer and its method of operation have been discovered, the best chance for the control of cancer lies in its early diagnosis and the prompt removal of the growth.

The discovery of a tumor mass hence leads at once to the questions, What sort of a tumor is this? Is it cancer? For if it is a cancer, it should be removed at once and entire, while if it is a simple and non-malignant tumor, its removal to some extent becomes a matter of choice.



A freezing microtome.

While tumor masses are discoverable by ordinary methods of examination, their nature, of what they are composed, and their exact future relation to health and life are not so discoverable, especially when they are small and inconspicuous, the very time when the treatment for cancers is most efficacious.

Every tumor, regardless of its size or appearance, demands investigation, for a benign and relatively harmless tumor may reach enormous size and a cancer may have a small and insignificant beginning. Moreover, a tumor that commences as a simple and benign growth at some later date may become cancerous, so that an exact determination of the nature of a tumor becomes imperative as soon as it is discovered.

The solution of the problem is not always easy and requires the utilization not only of special methods but also of specialized skill in their application.

The court of last resort in this case is the microscope, by the aid of which the structure of the tumor can be ascertained, for, while both benign and malignant tumors are the products of cellular overgrowth, the cells of a benign tumor are normal and present an orderly grouping, while the cells of a malignant tumor are abnormal and grow in a lawless and disorderly fashion.

Microscopic examination of a tumor may be done after the growth has been removed at autopsy, or a small portion of the tumor may be removed expressly for the purpose. Such a procedure is spoken of as a biopsy.

In either event, before microscopic study is possible, a number of preliminary procedures are necessary, all designed to permit the study of the individual tissue cells as nearly as possible as they were while living in the body and before changes due to decomposition and death can occur.

The first procedure, therefore, is to "fix" the tissue; that is, to produce immediate cell death without cell destruction; to "fix" them as they were when separated from the body.

This is achieved by immersing the tissue in an appropriate fixing solution, usually a solution of formaldehyde gas.

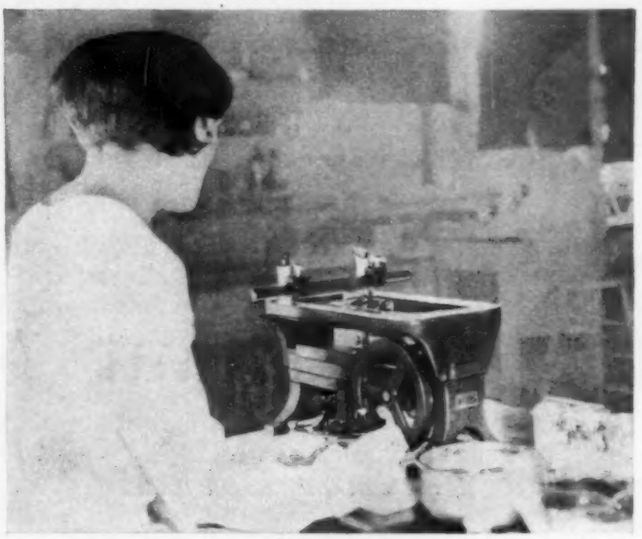
As the individual tissue cell is a minute object that must be highly magnified before the details of its structure can be seen, the next step is to

cut the tissue in slices thin enough to permit the study of single cells.

The machine with which this is done, the microtome, is somewhat similar in principle to the meat slicers seen in the butcher shop but is so constructed as to cut slices as thin as $\frac{1}{25,000}$ inch.

To permit such delicate sectioning the consistency of the tissue must be artificially increased, for which two methods are available: freezing and embedding.

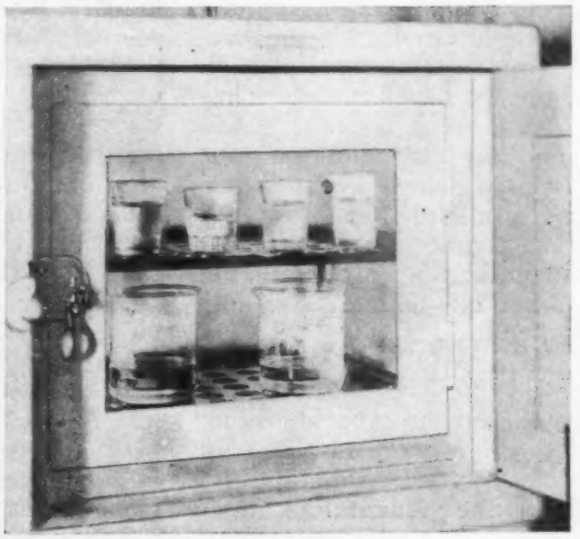
Freezing, while more rapid, is not always feasible for various reasons most often concerned with the character of the tissue to be examined. Frozen sections necessitate the preliminary freezing of the tissue into a solid block, which is done by exposing it to carbon dioxide gas under pressure. The same sort of gas tank is used that is employed to manufacture soda water. When the carbon dioxide is allowed to escape into the air it at once forms snow, which is intensely cold; and tissue, because of its water content, when exposed to carbon dioxide snow rapidly freezes into a solid mass.



Girl cutting paraffin sections.

Sections for examination are then cut from this block of frozen tissue.

Many tissues, however, because of their nature and delicate consistency, cannot be frozen satisfactorily and some other method must be adopted. The most satisfactory is to surround and permeate the tissue with some substance of sufficient consistency to permit cutting. This process is called embedding and the two substances most frequently used for the purpose are celloidin and paraffin.



An embedding oven.

The embedding of a tissue in paraffin is a process evolved after much experimentation.

Tissues contain a large proportion of water; paraffin is a fatlike, waxy substance, and oil and water will not mix. The first step, therefore, is the removal of the water from the tissues, for which purpose the tissue is placed in alcohol and other dehydrating agents.

In order to prevent injury or distortion of the cells, this important procedure of dehydration must be done gradually. The tissue is first passed through a series of alcohol baths of gradually increasing strengths and, finally, into a bath of acetone, which removes the last trace of water from the cells.

In order to render the tissue permeable to the paraffin it is next soaked in a paraffin solvent (xylol or benzol), as a result of which it becomes translucent.

The last step is the immersion of the tissue in a bath containing a weak solution of paraffin and, finally, in pure melted paraffin until the entire tissue is thoroughly impregnated. This, of course, must be done in an oven the temperature of which is constantly maintained at a level just sufficient to keep the paraffin liquid without harming the tissue.

The paraffin impregnated tissue is now placed in a paper box and melted paraffin poured around it. When solidified the tissue block thus made is fastened on a holder, which is placed in a microtome, when the thin sections are cut.

The slices of tissue are then fastened on thin plates of glass—slides—but cannot yet be examined because of the paraffin, which is opaque, and because the finer structural details of the cells cannot be clearly studied until they are made more clearly visible by dyes or stains.

These stains are water solutions and therefore will not penetrate the tissue while the paraffin is present. Further manipulations are thus necessary.

The tissue slides, as they are now called, are placed in a paraffin solvent bath by means of which the paraffin is dissolved and removed, leaving only the thin slice of tissue on the slide.

This solution is in turn removed with alcohol, after which, by passage through a series of

alcohol baths of decreasing strength, the water is gradually returned to the tissue, when it is ready for staining.

Once stained, the slides are still not ready for examination because, owing to the presence of water, they are not translucent. So, once more, the slides are passed through alcohol to remove the water and finally into a clearing bath, which renders them transparent. The last step is to protect the slice of tissue with a thin piece of glass (a cover-glass), which is cemented in place, when they are ready for examination by the pathologist.

The differential diagnosis of tissue sections is a specialized field of medicine requiring, like any other specialty, technical training and experience.

Tissue diagnosis demands, first, a knowledge of the appearance of normal tissues under the microscope; second, familiarity with the changes produced by disease and, finally, a knowledge of the particular changes seen in malignant growths—knowledge obtainable only by study and experience.

This phase of the study of tumors does not enter into the purpose of this article, which purports merely to indicate in outline the steps necessary before an answer may be given to the patient when he asks the questions: What sort of tumor is this? Is it cancer?

Dietary Advice for the Expectant Mother

By Edward Lyman Cornell

WITH the rapid development and refinement of food, good cooking is becoming a more and more important requirement for the prospective mother. Plain foods and plain cooking of the past can hardly be obtained. They will not serve for the present because conditions are so changed that the people are no longer content with rough provender or hit-or-miss cooking. We have much better knowledge and skill in preparing foods than ever before and the prospective mother is derelict in her duty to herself and her offspring if she does not pay attention to her diet.

Cornaro Made His Dietary a Life Work

It may be said that there were great dietitians in the past. However, these were few and far between and when they decided on dieting they did little else. Cornaro, the great Italian, made a life work of his dietary; but the business of the modern person in selecting and keeping to a correct diet is extremely simple compared with that of the Cornaro.

Appetite May Be Capricious

Again the excellence of our modern cooking and our more refined foods is considerably reflected in the low infant mortality rate of today when compared with the diet and mortality rate of the past.

The correct diet for the prospective mother includes the vitamins and calcium necessary for the proper growth of the infant. If her general health is good and if she is on a balanced diet, her habits of eating in the early months of pregnancy should not be changed. The appetite is usually capricious for the first few months. During that time she should endeavor to eat the

regular amount of food, indulging her appetite for fancy foods only occasionally. The essential vitamins are found in milk, butter, eggs and the leafy vegetables, especially lettuce, celery, cabbage and spinach. In cooking these vegetables she should remember that the vitamins are killed by overcooking; twenty minutes is sufficient.

Meat, fish or eggs may be taken once a day. Citrus fruit, such as orange, grapefruit and lemons should be included in the diet. One or two glasses of milk or buttermilk and from eight to ten glasses of water should be taken daily. If the prospective mother is underweight the milk consumption should be increased to four glasses; if for any reason she is unable to take milk, a physician should be consulted for a prescription containing a readily soluble calcium compound, because the mother's teeth and the teeth and bones of the baby need the calcium.

Beginning with the fourth month of pregnancy the weight of the pregnant woman should increase on an average of a pound a week, more than this average is abnormal. In the last month of pregnancy the consumption of meat, fish, eggs and milk should be reduced to at least one-half the usual amount. In the last two weeks these foods should be eliminated from the diet, substituting a large quantity of vegetables and breadstuffs. These instructions are good only for the woman who is pursuing the normal course. If the feet swell and if the pregnant woman suffers from headaches she should see her physician at once and allow him to prescribe the proper foods under the circumstances.

Smoking and alcoholic beverages should be avoided during pregnancy and the nursing period because they injure the health of the mother and, consequently, affect the child.

The balanced diet consists of three main headings: group I, the protective foods; group II, the body building foods and group III, the heat and energy-giving foods. In group I are included foods that give the four main vitamins, which for convenience have been designated as A, B, C and D. Vitamins A and D prevent rickets, B promotes growth, and C prevents scurvy. It is impossible in a brief article to name each food under each classification but, in general, group I includes all the vegetables and fresh fruits. Group II includes cereals, dried fruits, some vegetables, eggs, meat and fish. Group III includes the fats, starches and sugars.

A prospective mother who is a good cook tends to beget a good baby, and when it arrives, she is able to keep it a good and healthy baby.

Advances in the Medical Field in 1930

NOTABLE advances were made in the field of medicine during the year 1930, including the discovery of the germ that causes creeping paralysis and the discovery that the common cold is caused by a filtrable virus. Other advances were made in the lines of therapeutic apparatus for the treatment of various diseases. Some of the most outstanding advances are as follows:

1. The artificial lung or respirator was invented by Drs. Philip Drinker and L. A. Shaw. This apparatus keeps patients alive whose breathing apparatuses have been paralyzed by infantile paralysis or by gas poisoning.

2. Vitamins in sufficient quantity were shown to prevent leprosy in animals, by Dr. J. Shega, dean of the Imperial Medical Faculty at Seoul, Korea. Although it is not yet proved, there is no reason to believe that this discovery will not prevent leprosy in man as well as in laboratory animals.

3. The virus causing the common cold was reported to be found by investigators at Columbia University and by others at Johns Hopkins Medical School.

4. Vitamin D was found to shorten the time that it takes blood to clot, a vitally important consideration in surgical operations.

5. Dr. Edward C. Davidson of Detroit found that a tannic acid solution would be helpful in treating cases of severe burns.

6. The flarimeter—an instrument whereby heart disease might be disclosed in its early stages before the more serious symptoms of shortness of breath and pain are observed—was demonstrated by Dr. P. V. Wells of Newark, N. J.

7. Radio waves of a length shorter than those used for the transmission of messages were found to be of value in killing the poison of diphtheria by Drs. Waclaw T. Szymanowski and Robert Alan Hicks of the Western Pennsylvania Hospital Institute of Pathology.

8. The germ that causes creeping paralysis was discovered by a special ultramicroscope after it had been magnified 1,800 times its size. The discovery was made by Sir James Purves-Stewart and Katherine Chevassut of Westminster Hospital, London.

9. Fever produced by radio waves was found to be helpful in treating paralysis, by Dr. W. T. Richards of Princeton University.

10. The 300th anniversary of the first use of cinchona bark from which quinine was extracted for use in malarial treatment was celebrated in 1930.

"Ho! Ho! Humph!" yawns the man who has worked hard all week and is loafing on Sunday, "I am tireder than if I had worked all day."

Lessons in Relaxation

I. FATIGUE

By Thurman B. Rice

EVERY one has experienced the sensation of being tired, or even "tired to death," and yet few have experienced extreme fatigue as the term is defined by students of physiology. We are, however, less concerned with the technical definition of the condition than with the practical understanding of the state that makes us uncomfortable and prevents us from going ahead with our work or our play.

"He gets tired too quickly," says the industrious of the shiftless. Fatigue in this case is being confused with laziness. But what is laziness? It may be lack of interest in the work to be done; it may be ill health—malnutrition, chronic infection or hookworm disease; it may be lack of ambition and understanding of the problems to be faced. Certainly it is quite a different thing than fatigue.

Sunday Loafer Needs Exercise

"Ho! Ho! Humph!" yawns the man who has worked hard all week and is loafing on Sunday, "I am tireder than if I had worked all day." Evidently this is something other than real fatigue. Lack of exercise has allowed the blood and lymph circulation to get sluggish and the sensation described as fatigue results. Our Sunday loafer yawns and stretches and by the contraction of muscles he squeezes the blood and lymph out of the tissues and into the circulation, giving himself a few moments of relief. He needs exercise. Let him take a brisk walk or snap into something and the tired feeling is promptly relieved.

Somewhat the same condition exists when one arises in the morning, particularly if he has been tired when he went to bed and has slept soundly. The picture of the sleepy head trying to get awake in the morning is too well known to need description. Ask him if he is tired. He will tell you emphatically—at least as emphatically as is possible under the circumstances—that he is tired to death. Yet he has been resting for hours. Through stretching, yawning, rubbing his face and eyes, taking a cold bath, or at least washing hands and face in cold water he is finally awake and ready for the day.

Boredom Brings Fatigue

The ribbon clerk comes dragging home far too tired to help her mother get supper or wash the dishes. The phone rings and the snappy boy friend invites her to go with him to a dance. Is she tired then? Well, scarcely! Dashing upstairs she dons her prettiest dress and is off full of pep, dancing into the wee small hours of the night. She was not really fatigued when she left the ribbon counter; she was only bored. The same may be true of the man or woman of leisure who has nothing to do but have a good time. One can become very tired of shows, of golf and bridge games, of travel and of loafing, but this can hardly be called fatigue. What parent has not had the experience of carrying a tired child home, only to see him run yelling and jumping to the neighbors to play with the other children.

The first warm day of spring gives us a tired feeling—spring fever, we call it. The cool air of winter with its tonic effect has gone. Winter clothes and underclothes are still worn for fear

we may take cold if we shed them too early. As a result the body, unaccustomed to the warm weather, sends the blood to the surface to be cooled. The brain and muscles are poorly supplied with blood and one is sluggish mentally and physically. The skin is sticky and uncomfortable, the feet burn as a result of the dilatation of the blood vessels of the skin. There is no element of real fatigue in the picture.

Finally there is the matter of suggestion. After we have done a certain amount of work we feel that we are entitled to a little sympathy and relaxation, and so we suggest to ourselves that we are dead tired. It is well known that it is the last few miles of the automobile ride that make us tired whether the drive is long or short. On a trip of 300 miles one is still fresh at the 50 mile mark; on a trip of 50 miles a person finds himself as he nears his goal stiff and anxious to have it over.

Five years ago no one would have believed that a couple could dance for a day and a night, but the marathon dancers have danced not merely for days but for weeks and months. At least they have recently. In the first marathons the dancers were able to keep it up for only a few days. Recently two couples danced for four months with but a few minutes rest each hour.

The ribbon clerk drags home too tired to help her mother wash the dishes. The phone rings and the snappy boy friend invites her to go to a dance. Is she tired then? Well, scarcely!

These endurance contests have at least had the good effect of teaching us that fatigue, as most of us know it, is largely a state of mind. It is certainly a fact that most of us could accomplish far more if we would not so soon suggest ourselves into a state of mind that makes us "knock off."

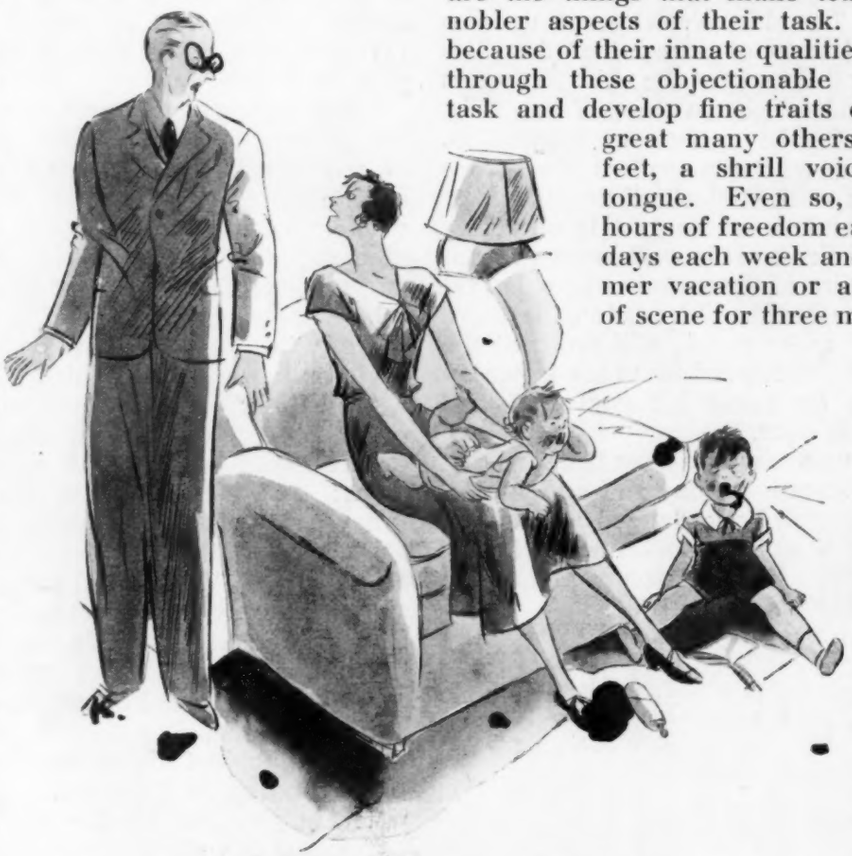
Scientists have various classifications of fatigue, but for practical purposes I shall simplify matters by describing just two forms: (1) physiologic, or normal, fatigue, and (2) pathologic fatigue.

Physiologic fatigue must be considered one of the greatest of blessings. It gives one a sense of self-respect and worth whileness which can be attained in no other way. Happy is the man who comes home in the evening tired as a result of a day full of accomplishment. He expects and receives the homage of his family. He eats a big supper, smokes his pipe, reads the paper, plays with the children, sprinkles the lawn, reviews the day's accomplishments, turns in for a good night's rest and gets up in the morning eager to carry on. The words of the tired man or woman have become stereotyped expressions: "That shows who has done the work today," says the tired man whose appetite has attracted attention. "I slept like a log last night. I was tired." "Tired and hungry" is an expression commonly used. Insomnia, loss of appetite, indigestion, neurasthenia, ennui and similar conditions are almost unknown to persons who attain the honorable state of physiologic fatigue.

Pathologic fatigue, on the other hand, is devastating in its effects. The worker, the teacher or the mother who is "worn to a frazzle" is well known. "Tired and cross" is an expression quite as familiar as "tired and hungry." Such a person is too tired to eat, too tired to sleep and awakes worn out in the morning to tell a story of tossing and dreaming the night through. Such a state of self-pity, that most destructive of all the neuroses, makes mountains of molehills and prevents relaxation. The blues roll up to overwhelming proportions. It is impossible to let loose and allow uncorrectable things to slide by. Nagging, scolding and complaining, the pathologically tired parent makes the family miserable and as like as not wrecks his home as well as his health.

The problem of fatigue resolves

itself into two phases: How to attain the physiologic form and how to avoid the pathologic. Concerning the former there is little need to speak, for the reason that persons who need it most will scarcely give heed to an article of this sort even if they should read it, which latter is extremely unlikely. Every person with a healthy body and an able mind should have a useful task if he would escape the debasing sensation of the realization of personal good-for-nothingness. The possession of money or property has nothing whatever to do with whether one should work or not. Slaves work because they must; men and women work because they have a purpose, a program to be put through. To feel that one has accomplished something is vastly more satisfying than to feel that one has merely flitted about. As a result the worker eats better, sleeps better, and feels better than the wastrel. In the interest of good health, mental and physical, every able person should work.



It is not surprising that the housewife, who is on the job night and day, becomes nagging and cross.

On the other hand, a task can be a terrible tyrant. The worker who is ill suffers horribly in many cases. His body revolts against the health-breaking activities and the end of the day finds him abnormally exhausted. It is but a matter of a few weeks or months until serious and permanent damage has been done.

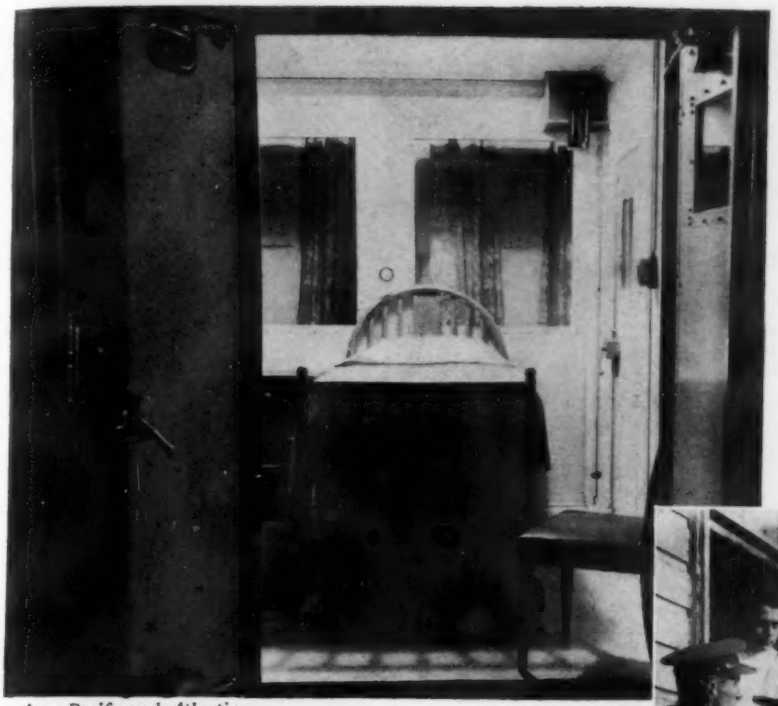
The problem of the school teacher and of the housewife needs particularly to be appreciated. Many would suppose that the work of the teacher is light, and it is quite certain that husbands after a hard day's work often act as if the housewife had a snap in the little matter of keeping house and looking after the children. It is the petty discipline of the school and home that is particularly racking. The lack of stimulation from mature minds; the failure to see immediate results; the never ending hubbub; the constant sense of responsibility; the monotony; the endless hearing of lessons that are known by heart and the reading of papers that are dull repetition of two score others—these are the things that make teachers forget the nobler aspects of their task. Many teachers, because of their innate qualities, are able to see through these objectionable phases of their task and develop fine traits of character. A great many others develop crow's feet, a shrill voice and a sharp tongue. Even so, the teacher has hours of freedom each day, two free days each week and usually a summer vacation or at least a change of scene for three months each year.

The housewife, on the other hand, must be on the job night and day every day of the year. In addition she, more likely than not, must give considerable thought or even worry to the question of managing the aggravating problem of inadequate income, since practically all incomes are inadequate to meet the demands of a family and a savings account. She is expected, if the race is to continue, to undergo the ordeal of pregnancy, confinement and the care of babies. Under such conditions it is not surprising that housewives frequently suffer from the baneful effects of pathologic fatigue and become nagging and cross. We seriously doubt if there is a bigger health need today than finding some means of lightening the work and responsibilities of mothers. Fortunately some progress has been made in recent years in the way of labor-saving devices, day nurseries at which children may be left for a few hours and other innovations.

To be able to recognize the baneful effects of pathologic fatigue before serious damage has been done is of the utmost importance. The following suggestions may be of value:

1. If you are too tired to eat or sleep at the end of the day,
2. If you despise your work and dread to begin in the morning,
3. If you are getting cross and impatient,
4. If you are unable to relax,
5. If your health is not as good as it was—

It is time to make a change.



Acme-Pacific and Atlantic

OXYGEN TREATMENT

This room in Passavant Hospital, Chicago, may be hermetically sealed and used to administer oxygen to pneumonia patients. The flow is controlled by attendants outside, and carbon dioxide is removed by a device in the room.

Acme-Pacific and Atlantic

HORSE VISITS THE DENTIST

This mount of an army colonel is at the dental clinic having an x-ray picture taken of an abscessed tooth.

PRACTICE TILT

Midshipmen at the U. S. Naval Academy, Annapolis, have adopted fencing and it is becoming a popular diversion.

Acme-Pacific and Atlantic

EDUCATION IN KOREA

Korean girls in a mission school at Seoul take their daily exercise in the open air.

George C. Poundstone

Herbert Photos

CHILDREN IN ALGERIA are employed at the age of 3.

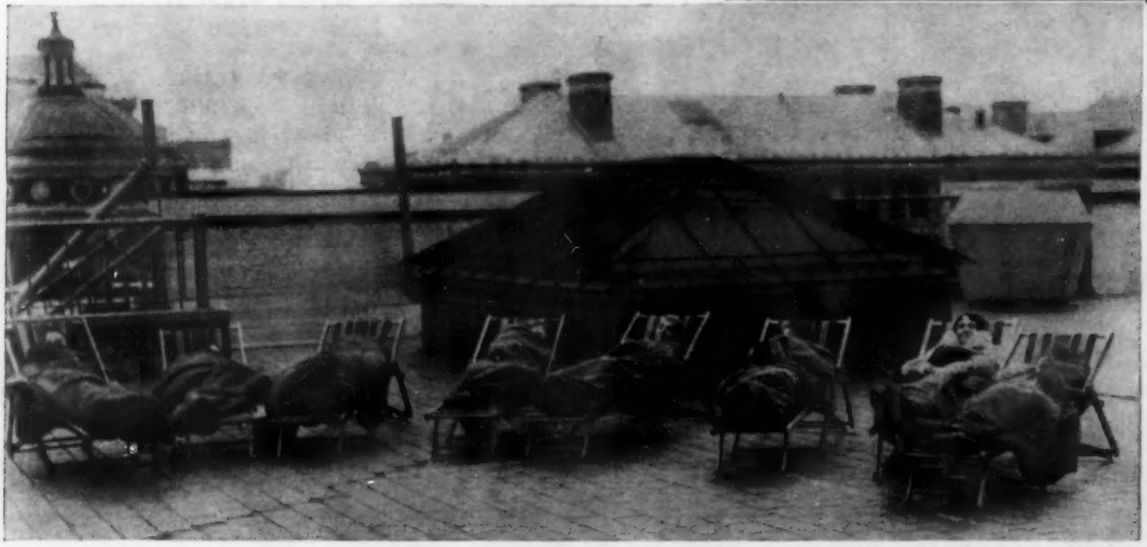
AFTER A DIVE

Nitrogen is removed from the diver's tissues by a gradual release of pressure in a decompression chamber.

Acme-Pacific and Atlantic

SUN CURE

Barnard College students with low vitality are given open air treatment on top of a building.



Acme-Pacific and Atlantic

LIVING MONUMENT

The man who as a little boy was the first person cured of rabies by Louis Pasteur forty-five years ago poses in front of the Pasteur monument in Paris.

Acme-Pacific and Atlantic

Acme-Pacific and Atlantic

SKATING ON LONG ISLAND

Society maids at Beaver Dam are well practiced in winter sports.

Underwood and Underwood

HOLDS TWO RECORDS

E. Hamilton Lee, the air-mail pilot who has flown more miles than any other pilot, has never had an accident.

Ewing Galloway

MANHATTAN SMOKE, which the city of New York is attempting to abate.

Alice in Slumberland

III. The Tarts

By

Nellie G. Herriman

The book had turned into a little door in which stood a little man all made of playing cards. He was beckoning impatiently.

"COME, dear, it's time for your supper," called Nurse. No answer came and she called again, "Alice, come to your supper now." Alice wriggled her body more snugly into the corner of the big chair and covered her ears with her hands, propping her book open with her elbows. She sat in this awkward position, reading very fast, until Nurse came to her side and pulled her hands away from her ears.

"Your supper is waiting for you," said Nurse patiently.

"Don't want any," snapped Alice. "It's probably only bread and milk anyhow."

"And fruit and cookies, with a nice cup of cocoa," finished Nurse.

"Oh, I'm tired of that! I want chocolate éclairs and jam-tarts and doughnuts and beefsteak and—"

"Oh, Alice, you would never grow strong and tall if you eat such things all at once. Even grown-ups don't have them often." Nurse took Alice by the hand and tried to lead her to the table. It did look nice with its clean white cloth, blue plate and bowl and the saucer of shining berries, but Alice jerked her hand away rudely and ran back to her book.

Nurse looked at her sternly, then took away the dishes and food, and folded the white cloth and put it in the drawer. As the food disappeared Alice began to feel that perhaps she was just a little hungry after all, but she was too stubborn to apologize and ask Nurse if she might have just a piece of bread and butter. So she bent over her book again. The letters on the page were dim for she really did need a light, but she bent more closely to the book instead of lighting the pretty lamp on the table.

> The Queen of Hearts, she made some tarts,
> Upon a summer's day,
> But the Knave of Hearts, he stole the tarts,
> And then he ran away.

"Ummmmmmmm! Wish I had a tart," murmured Alice.

"Come along, then," said a voice so close that Alice jumped and looked about the room.

"Come along, I say," repeated the voice. "The Queen is just taking them out of the oven."

In her surprise Alice dropped the book and jumped out of her chair.

"That's right!" said the voice. "Come along, but hurry, for those tarts will be all cold and I'm hungry."

The voice seemed to come from her book and she moved closer to look at it. Sure enough, the book had turned into a little door in which stood a tiny man all made of playing cards with turned-up toes on his shoes, twinkling eyes and a mischievous mouth. He was beckoning wildly.

"Hurry!" he said. "My, but you are slow!"

Alice moved toward the little door, and he walked backward down the long hall on the other side, beckoning all the while. Quite close to the door, Alice stopped.

"I—I c-can't," she stammered, her voice shaking with fear and excitement.

"Can't what?" the Knave (for she was sure it was the Knave) said impatiently. "A great girl like you should be able to do anything. I think you must be lazy."

"Oh, no," said Alice.

"Oh, yes," insisted the Knave, "I know you are, but never mind. While we are standing here the King is probably eating all those tarts, and they looked quite fine, you know, when the Queen was taking them out of the oven. So hurry along."

"I—I can't," said Alice again.

"Can't what?" the Knave shouted angrily.

"I—I can't go through the door," explained Alice. "I—I'm too big, don't you see?"

The Knave measured her with his eyes. "Why, so you are! I never thought of that! We'll soon fix that." He pulled something from his pocket. "Here, eat this."

Alice took what he offered and found that it was a chocolate éclair. She put it in her mouth and chewed it slowly. It had a queer taste but as she ate such a remarkable thing happened that she soon forgot about the taste. For she felt herself becoming smaller and smaller. Things that had looked small to her before now looked enormous. Her own chair looked to her as if it were made to fit a giant. When the last of the éclair was swallowed she was so small that she could have hidden in her own mother's shoes.

"There, that's better," said the Knave. "Come along now. If those tarts are cold I'll never forgive you."

Alice tried to pass through the door but she struck her head on the top and found her body was still too wide to pass through comfortably.

From the pan the King was busily eating juicy jam-tarts.

"You'll have to give her another," said a voice. There beside her stood a woman all made of rings. She was about half as tall as Alice now was, and she was crying as if her heart would break.

"Oh, all right," said the Knave grumpily, "but she's going to keep us waiting until the King has eaten all those tarts." He gave Alice another chocolate éclair. "Here eat that, and do be quick about it."

She did as he bade, and immediately began to grow smaller. She felt very tight and uncomfortable, but was afraid to disobey the Knave.

"Now, you'll go through," sniffed the ring-lady, when the éclair was gone. She went through the door, and Alice followed fearfully.

"Hurry, will you?" snapped the Knave, dragging Alice along by the hand. The ring-lady went on ahead, sobbing all the while.

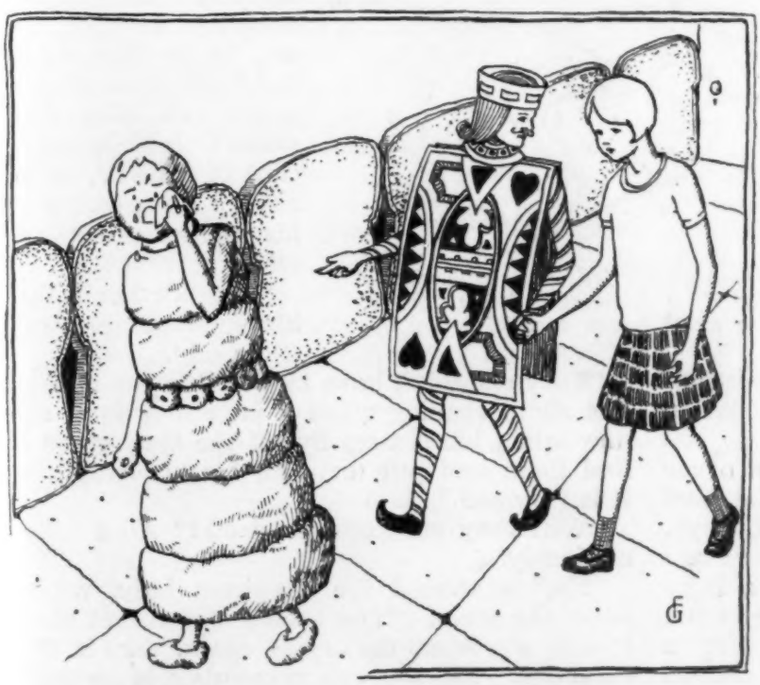
"What is the matter with her?" asked Alice.

"What is the matter? I guess you'd cry too if you were as full of doughnuts as she is! Very indigestible, they are!"

Alice looked at the lady closely and saw that her whole body was made of doughnuts. Even her hands and face were formed of rings and each of the rings was a doughnut.

"She seems very sad," Alice said.

"She is sad. Besides being uncomfortable, she has no friends, for no sensible person will have anything to



The ring-lady went on ahead, sobbing all the while. "What is the matter with her?" asked Alice.

do with so many doughnuts all at one time, you can be sure of that."

"You are mistaken," Alice said. "I'm her friend, for I like doughnuts no matter how many there are."

"I said *sensible* person," said the Knave, walking very fast.

Alice felt very red as they walked down the long hall. Soon she forgot her embarrassment, for the hall was interesting indeed. Its walls were made of toast, a fountain of milk played in the center, the graham-cracker floor was laid with rugs made of spinach, the table was a round cookie upon a radish and the couch was made of brown bread. Alice would have stopped to taste but the Knave pulled her along.

"Come along," he said. "Have you forgotten the tarts? The King will have eaten every one."

"Why," said Alice, "this hall is all made of food!"

"Of course," snapped her guide, the Knave. "Everything in this land is food, stupid!"

Alice looked at him in surprise. "Are you food, too?"

"Of course. I suppose some naughty child will gobble me up sometime."

"What—what kind of food are you?"

"Candy. And let me tell you, I never know when I'm safe. You'd think I could rest between meals, but some folk never know when to stop eating candy. Why, a little girl even grabbed at me one night when I was playing about on her counterpane after she had gone to bed. I had to jump quickly to save my life. Eating candy in bed! Imagine!"

The Queen became so excited that she began to fall apart. The King tumbled off the throne, and the walls began to shake.

Alice saw that he was made of peppermint candy, hard and shining. Her mouth began to water and she felt hungrier than ever.

It seemed to Alice as if the hall would never end, but finally the Knave pushed open the toast door at the farther end and led her through. The doughnut lady slipped through at the same time, weeping bitterly. They stood in a huge court room lighted by a sun that shone in the center of the building. Alice stared for a moment, for the sun was made of yellow cheese. At the far end of the room was a throne carved from corn-bread, upon which sat the Queen and the King. The Queen held a rolling-pin in one hand and a cookie pan in the other. From the pan the King was busily eating juicy jam-tarts.

When the Queen saw Alice, she roared in a voice that shook the ginger-bread walls of the room, "Who is that?"

The doughnut lady fell on her knees and wiped her eyes. "It's a girl that came through the door," she sobbed. "It's name is Alice."

"Off with her head!" roared the Queen; poor Alice nearly died of fright until she saw that the Queen was pointing toward the doughnut lady. "Off with her head! All she does is cry, cry, cry; a person ought to smile at least half the time. Off with her head! Everything turns blue when she comes into the room."

Sure enough, the air all about the doughnut lady had begun to turn blue. The doughnut lady wept harder than ever, and Alice began to feel sad too. The Queen started to roar "Off with her head!" but broke down and began to cry too. The King sneezed so hard that his glasses flew off his nose into the Queen's lap. While she was helping him to put them upon his nose again the Knave slipped to the side of the throne and began to eat tarts from the pan.

"The King always sneezes," sobbed the doughnut lady. "You see, he is always eating foods that are not good for him and doesn't take proper care of himself, so he always sneezes. And his glasses always fly off."

"I didn't know that kings wore glasses," Alice said.

"They shouldn't have to, but this one is careless about reading when it is getting dark, and now when his glasses fly off the Queen has to find them and put them on his nose for him. It is very sad."

"Will they cut your head off?" Alice asked anxiously.

"No," answered the doughnut lady, wiping away the tears. "The Queen will forget about it until she hears me crying again. She is very forgetful. All she can remember is to make tarts and say 'Off with her head!'"

"My goodness," said Alice.

"You haven't very much," said a voice so close to her ear that Alice jumped. Turning, she saw the grinning face of the Cheshire Cat fading out in the air.

"Very much what?" she stammered.

"Goodness," answered the Cat, as he faded slowly until only the grin could be seen. By the time it was gone the Queen had placed the glasses on the King's nose, but he immediately sneezed them off again.

All this time the Knave was cramming tarts into his mouth as fast as he could. When the Queen took up the pan again it was empty, and the Knave was wiping the crumbs from his mouth.

"Off with his head!" shouted the Queen. The King sneezed. The Knave ran as fast as he could out of the room. "He's running right after eating!" shouted the Queen. "That's very bad! That's very bad! Off with his head! Off with his head! Off with his head!"

She became so excited that she began to fly apart, and the King too was tumbling off the throne in a thousand pieces. The walls of the room began to shake as if they too would soon fall.

"Never lose your temper," said a voice, and Alice knew it was the Cat. "You might go all to pieces." She didn't turn to look at him, for at that very moment she felt a hard bump.

She found herself on the floor by her chair in her own room at home. She was big again, and everything looked just as usual. Perhaps the Knave had carried her back there. Perhaps she had fallen asleep and had fallen from her chair while dreaming. Which do you think? At any rate she never forgot about the doughnut lady and the éclairs, and Nurse was delighted when she ate all her meals without complaining about the food. In fact, she said she didn't want too many rich things such as doughnuts, éclairs and the like.

I take my hat off to the sun
And let it warm my tiny face
And go way down into my heart
And warm in there a larger place.

G Donahue

The Baby Suntan

By Billie L. Bender

To cure myself of great dislike
Of little trials life brings,
I simply call a halt and take
A different view of things.

Trouble Seekers

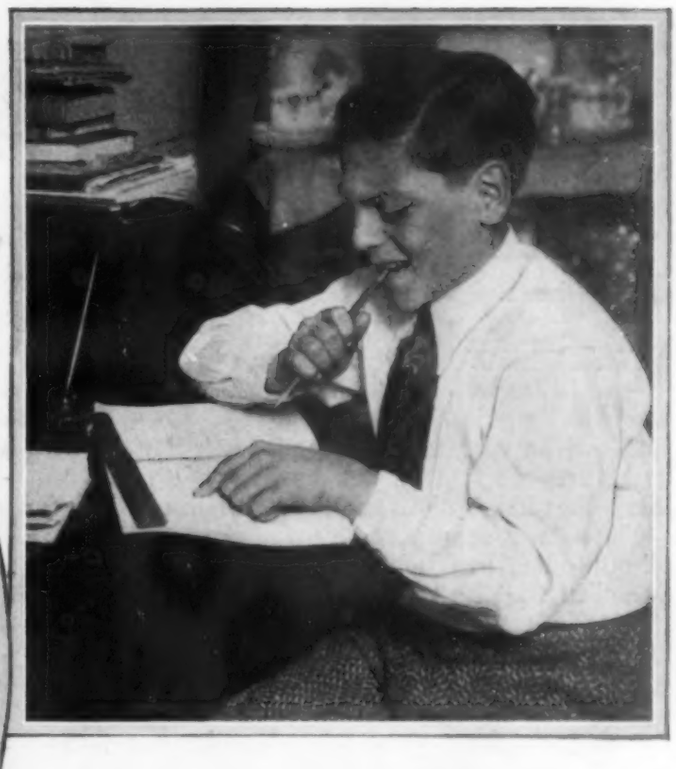
Photos by Ewing Galloway

Paul Trouble Seeker steals another ride.

Jim Trouble Seeker cannot break himself of nail-biting.

Tony Trouble Seeker thinks his teeth are scissors.

Franklin Trouble Seeker sucks his lead pencil; maybe it isn't even his.

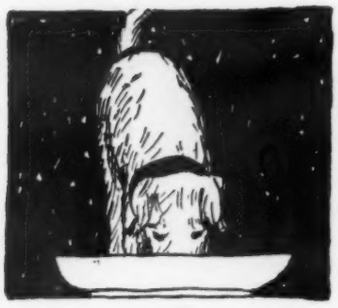


John Hubert Trouble Seeker rubs his eyes with dirty fingers.

Mary Alice Trouble Seeker chews her pocket handkerchief; not always a clean one either.

Photos by Ewing Galloway

Bill and Barney Trouble Seeker bind up cuts and scratches without first disinfecting them. They also put sterile bandages on the dirty pavement.



Tag-a-long Finds Something

WRITTEN BY

MRS. AIREDALE washed her son Tag-a-long until he was as clean as a dog ought to be when he is going to school.

"Now, be careful when you cross the tracks, and hurry as fast as you can so you won't be late," said his mother as she kissed him good-by.

Tag-a-long scampered down the road to the schoolhouse, but his little legs were so small and thin that he really could not go very fast. He was always tagging along behind and was late everywhere he went, and that was how he got the name Tag-a-long.

"Good morning," said the teacher when all the dog children were seated and their paws folded on top of the desks.

"Bow wow," said all the dog children together. Of course you know that means "Good morning, teacher," in dog language.

"The school nurse is coming to inspect us today," said the teacher, "so we must keep ourselves and our desks as neat and clean as possible."

"What is 'inspect'?" asked Tige, the bulldog. Tige was always talking out in class and forgetting to hold up his hand.

"Well, I think she will weigh and measure us first; if she has time she will look at our teeth and eyes, and see how clean we are," said the teacher.

"Bow wow, just my luck," whispered Rags, the wire-haired-terrier. "Look at my neck and ears! I can't remember whether I washed them this morning or not. I probably forgot it again."

"I hope your finger nails are clean today, Trixie Terrier. I should not want the nurse to see them as they were yesterday. Now, Tag-a-long, sit up as straight as you know how. I want every one to look his best when the nurse comes in."

"Gr-gr-gr," said all the dog children together.

Pretty soon in walked the nurse; when she saw them all looking so clean and sitting up so straight she smiled and said:

"Good morning, children. I am glad to see you all looking so clean and happy."

Then the nurse took the big scales and the measuring rod out of a box and began to weigh and measure all the dog children. But when it came Tag-a-long's turn to be measured, she had a pretty hard time of it, for he could not stand straight no matter how hard he tried.

"Tag-a-long, do you ever drink milk?" asked the nurse.

"Oh, once in awhile."

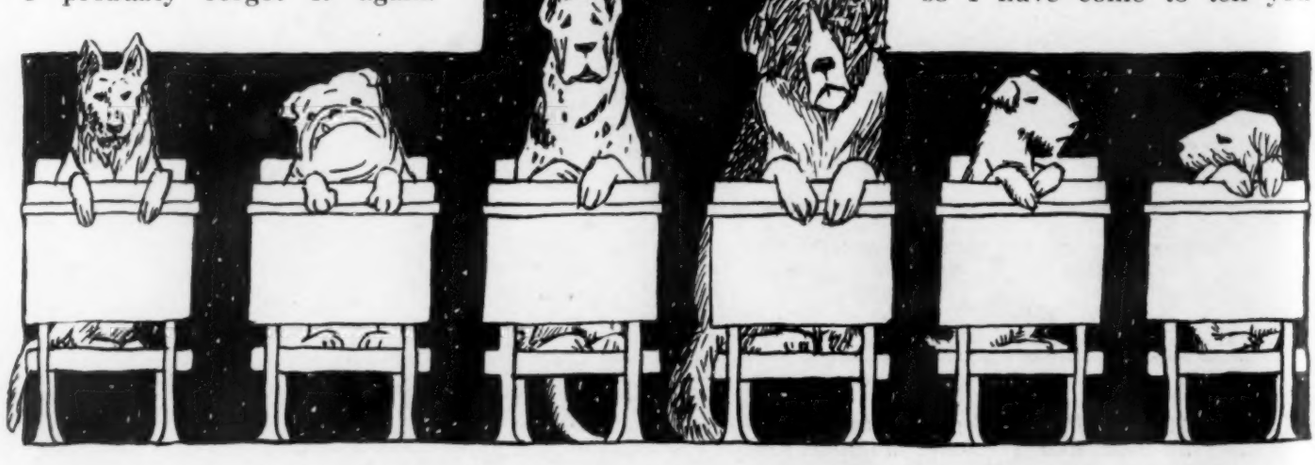
"Do you ever eat spinach?"

"Spinach?" asked Tag-a-long. "What's that?"

"Oh, don't you know what spinach is? I think I had better go home with you today and see your mother."

So that day after school the nurse went home with Tag-a-long to see his mother.

"Mrs. Airedale," said she, after they reached Tag-a-long's house, "I am the nurse from the Canine School and I have come to talk to you about Tag-a-long. I am sure you want your son to be a fine big dog some day, so I have come to tell you



All the dog children were seated with their paws folded on top of the desks.

That Will Make Him Grow

IDA SPAETH

what foods will help him grow. First of all, he needs lots and lots of milk and some fresh green vegetable every day. Now spinach is one of our best green vegetables. Do you give Tag-a-long lots of spinach, Mrs. Airedale?"

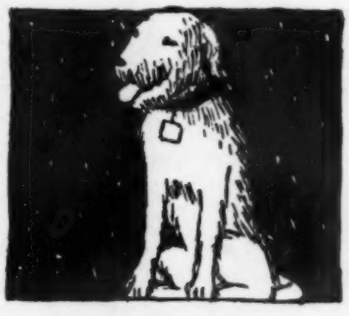
Now Mrs. Airedale was very, very deaf. She did not hear half that the nurse was saying but she wanted to be nice, so she smiled sweetly and pretended she did hear.

"Yes, yes," she said, "I give him lots and lots of candy. He likes candy."

"No, no, no, Mrs. Airedale. Not so much candy, but lots and lots of milk and spinach," said the nurse.

"Lots and lots of Spanish?" asked Mrs. Airedale, wonderingly.

"No, no, no, not Spanish; spinach, spinach. Tag-a-long needs lots of milk and some green vegetable every day to make his legs strong and to help him grow."



But Mrs. Airedale only smiled sweetly and said, "Yes, yes, he is a fine little fellow. I hope he will be a great runner some day."

At last, Tag-a-long, who knew just how to make his mother hear, said, "I'll tell her." So he got up close to her ear, cupped his little hands and shouted, "Spinach, spinach, mother; the nurse says I need lots and lots of milk and spinach to make me grow big and strong."

"Oh, milk and spinach, yes, yes," laughed Mrs. Airedale.

"Yes, yes," nodded Tag-a-long and the nurse together, until they nearly shook their heads off they were so pleased that she understood.

As soon as the nurse was gone, Mrs. Airedale hurried Tag-a-long off to get some milk and spinach. "Now, mind, Tag-a-long, you stop at the drug store and get a big bottle of spinach, and at the grocer's and get a big bottle of milk. If these will make your legs strong and help you grow, you shall have a bottle of each every day."

You can see that Mrs. Airedale was really a good mother and wanted her son to grow up strong and healthy. Above all, she wanted him to have strong legs so that he might become a great runner some day like his father.

Tag-a-long hurried to the drug store as fast as his small, thin legs would carry him, and said:

"I want a bottle of spinach, and here's the money."

"But, my little fellow," said the druggist, scratching his head, "how can I sell you spinach in a bottle?"

"Well," said Tag-a-long, "I must have some spinach to make me grow. I shall try the grocer."

So he went to the grocer and said, "I want a big bottle of milk and a big bottle of spinach to make me grow, and here's the money."

"But, my little man," said the grocer, "here's the bottle of milk, but how can I sell you spinach in a bottle?"

Tag-a-long took the big bottle of milk, but he said, "I think I shall just keep on trying till I get some spinach too." So he went to the butcher, the baker and finally the vegetable man.

"But, my little fellow, how can I sell you spinach in a bottle? I have some lovely, fresh, green spinach that I can sell you in a sack and some I can sell you in a can."

"Are you sure it is spinach?" asked Tag-a-long.

"Yes, indeed, it is nice, green spinach."

"Will it make me grow?"

"Finest thing I know to help make red blood."

"Well, then, I guess there's more spinach in a bag than in a can, so give me a bag of spinach."

When Tag-a-long reached home the first thing his mother said when she saw the big bag and the green leaves sticking out at the top was:

"What's that you have in that bag, Tag-a-long? Why didn't you bring spinach as the nurse said?"

"But, mother, this is spinach. It comes in bags and not in bottles."

When Mrs. Airedale saw what a mistake she made, she just had to laugh. She laughed and she laughed and she laughed until she nearly fell off the chair. Then Tag-a-long laughed and he laughed and he laughed. When Mr. Airedale came home and they told him about the bottle of spinach, he laughed till he shook the house.

"The best part of the joke is that spinach is good to eat after it is cooked," said Tag-a-long joyously. "I thought it was medicine."

New Books *on* Health

MAN VS. MICROBES

By Nicholas Kopeloff. Cloth. Pp. 311. Alfred A. Knopf, New York, 1930.

DR. KOPELOFF has not been betrayed into any romance concerning the bacteria. He limits himself largely to verifiable facts. The book should, therefore, be useful to any reader who wishes to know something about the relationship of bacteria to life. Unfortunately, it is impossible to present this topic without embarking on a scientific nomenclature which involves the learning of an entirely new vocabulary.

The first chapter, entitled, "The Story of Bacteriology," is a well written account of the great investigators who have brought knowledge to its present point. Later chapters are more difficult and will be followed only by those who have a groundwork in the subject.

MORRIS FISHBEIN, M.D.

THE STRANGE CASE OF MR. SMITH

By Happy Goldsmith. Pp. 10. Gratis. Cleanliness Institute, New York, 1930.

THIS "amusing story of a cold murder," or practically that, by the health clown, Happy Goldsmith, is about the pleasantest health teaching one could absorb. Ten small pages of humor, mystery and love, the booklet concerns colds, how they are transmitted and how they may be avoided. By glancing at the name of the publishers, we might guess that the great solution that might have "dissolved" the mystery is soap and water.

The characters are: Mr. Smith, who was romantic even if he did wear prickly underwear; Mrs. Smith, who always wore rubbers, rubbed her chest with something, and never sat in a draft, Elithabeth Thmiff, who thomehow alwayth had a code in the heb; Mr. Jones and his wife, who were both in the dark about kissing; and Sherlock, the great detective, whose heart was in the right place even if he did think a great love is not to be sneezed at.

The little red and yellow volume abounds in wisecracks such as "As Jonah said to the whale 'If you'd kept your mouth shut a thing like this would never have happened.'" All in all, the booklet was one of the cleverest bits of health publicity of 1930.

MILDRED WHITCOMB.

THE CREATIVE HOME

By Ivah Everett Deering. Pp. 180. Price, $1.50. Richard R. Smith, Inc., New York, 1930.

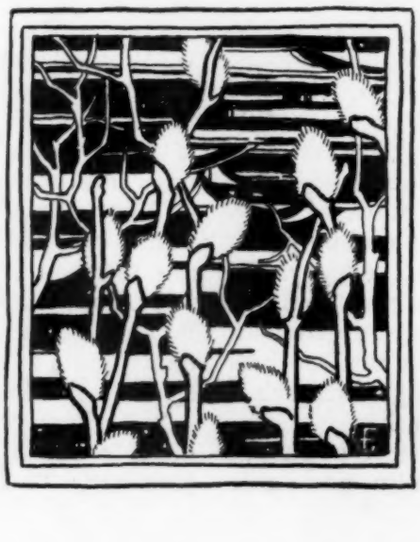
MRS. DEERING was raised on a farm. Yet now she knows that she was never alive to the farm life about her—the wood life, the habits and songs and colors of birds and wild animals. Her parents had work to do, so much work that they had no time to interpret the life about them to the little child who was a dreamer of dreams.

Many of us today feel the handicap of similar lost opportunities in childhood. But parents of this generation have not the pressure of physical labor and long hours. Many of their activities can be eliminated and more time given to encouraging in their children the spontaneous expression of their spiritual life.

These chats by Mrs. Deering are designed to help parents develop the creative spirit that lies within the child. They deal with play and games and exercise of the imagination. They suggest creative habits for youngsters that may be not only present sources of delight and satisfaction but future hobbies and sometimes vocations. They are given in the belief that the delinquent child is the one who has had no outlet for self-expression and that the dissatisfied adult is the one who has had no early development of the rich resources of the mind.

An occasional reading of a book like this brings new inspiration to parents, a rededication of the spirit to their all-important task.

M. W.



THE MONEY VALUE OF A MAN

By Louis I. Dublin, Ph.D., and Alfred J. Lotka, D.Sc. Price, $5. Pp. 264. The Ronald Press Company, New York, 1930.

BOTH authors of this volume are associated with the Metropolitan Life Insurance Company. The book is based on a series of studies they have made giving the value of a man under a wide range of circumstances. The tables cover a range of from $1,000 a year to $10,000, and the tables constitute about one half of the entire book. The special value of the book lies in its application to life insurance, public health and the information that it offers concerning the cost of disease.

M. F.

HEALTH FOR TRAVELERS

Edited by Alfred C. Reed, M.D. Written by the staff of the Pacific Institute of Tropical Medicine. Pp. 239. Price $3. J. W. Stacey, Inc., San Francisco, 1931.

THE staff of the Pacific Institute of Tropical Medicine, University of California, has united to produce a health guide to the traveler in hot countries or in hot weather. Besides the joy of seeing new sights and learning new folkways, which intrigues the globe trotter, the calls of business, government, science, religion and sportsmanship, take persons from our temperate zone into torrid climes. Whether their stay there is happy or is crippling to health is determined largely by the way they adapt themselves to their new physical environment.

Uniformly high temperatures lead to exhaustion, and the body sags. Often the mind sags, too, as a result of homesickness and discouragement, in the case of those whose length of stay is not governed by their own whims. At such a time, bodily resistance is lowered and the climate gets in its deadly effects.

Forewarned and forearmed by such a book as this one, the lot of the tropical traveler is bound to be happier and safer. The volume discusses sunstroke and heat exhaustion; insects, fish and animals as possible enemies; proper clothing and other items of personal hygiene.

The book is edited by Dr. Alfred C. Reed and is dedicated to Captain Robert Dollar of Pacific steamship fame. It is capably indexed.

M. W.

HEALTH *and the* SCHOOL

Edited by J. Mace Andress, Ph.D., 67 Clyde Street, Newtonville, Mass.

Satisfying the Needs of the Whole Child

IT IS the nature of science to be analytical. It is painstaking in its observations; it classifies its facts and seeks the ultimate causes of things. Science, as the Latin derivation of the word indicates, seeks to know but it also tries to apply what is known. Through such procedures man has changed the face of the world. He has constructed great machines, lengthened the span of human life and increased the comfort of living. One of the shortcomings of science is that it has often overemphasized analysis and neglected synthesis. This is particularly true of our attitude toward the child.

Instead of thinking of the child as a unit, we are prone to think of him by parts. Each specialist tends to see the child from the point of view of his speciality. A few years ago the editor of this department organized a course on the health of children for teachers and parents. Eminent experts in various fields of child welfare were invited to speak. The lectures were excellent, but each speaker neglected almost every aspect of the child's life except the one with which he was to deal.

The dentist put his emphasis on the cleaning of the teeth and the importance of seeing the dentist with regularity. To him a tooth seemed like a button on a coat. If he saw the relation of the tooth to the rest of the body or to the mental health of the child he did not make it clear.

The expert on physical education had evidently "gone to seed" on posture training. With skill and scientific accuracy he traced the evolution of man's posture. All the ills of life seemed to be due to bad posture and all the joys and satisfactions of life were possible to those who would stand and sit correctly.

To the nutritionist food was the beginning and end of life, for is not the body made by food and is not the energy of the body supplied by what we eat?

The psychologist, who spoke on the child's intelligence and mental health, lost himself in a labyrinth

of discussion about I. Q.'s and their significance. So the story went, each one dealing with the part-child.

Is it true that the child is divided into various compartments—mental, moral and physical? Should there be mere specialists on the part-child—one to look after his dental health, another to look after his physical activities and still another to consider his mental health. Is the child made up of many parts each operating independently or is the child one?

The answer is that the healthy normal child is one. Although we may cherish various metaphysical theories about the nature of mind and body and the relationship between them, the practical educator must consider, as Dr. Myerson says, that "mind is a function of the organism only artificially to be separated from its other functions." One of the newest and most important words used today by educators is integration, which implies the unification or coordination of all the activities of the individual. This integration is the result of the struggles of the organism with its environment. Health means integration; lack of health means lack of integration.

How apparent this is if we consider a few activities that appear to be purely physical. Take, for example, the millions of cells found in the human body. When the body is in perfect health, they all work together. They grow, but not too much. In the case of cancer some of them become wilful, foolish and antisocial. They grow and keep on growing until they menace the welfare of the entire organism. How delicately the various glands of internal secretion are organized! There are some that excite the body to action and there are others that hold it in check. If there is too little or too much thyroid secretion the result is soon registered in the mental and physical condition. The nervous system, as is shown by its evolution, not only permits the integration of physical organs but also the adaptation of the organism as an individual to its environment. The activities of the nervous system as a whole we call the mind. In health our mental powers are unified. Our sensations, perceptions, ideas and emotions seem to be related and belonging to the same self. Although our consciousness may be somewhat split into two parts that have nothing in common, such as playing a nocturne of Chopin on the piano and at the same time thinking of a problem in mathematics, they may be carried on usually without difficulty or harm largely because one of them has become highly automatic and because they are not opposed to each other.

Marked dissociation is characteristic of insanity. One mental patient, for example, entertained the idea that he owned the United States Treasury building. Nearly every day he would hand his physician a check for a million dollars and almost at the same time would ask for ten cents to buy himself some tobacco. These processes existed side by side without the patient's realization of their incongruity.

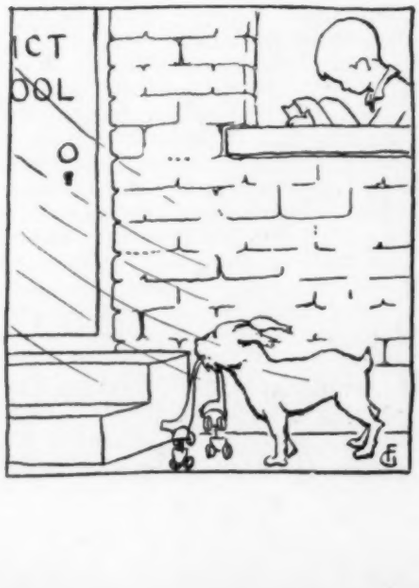
Assuming that we accept the idea of integration as one of the necessities of healthful living, what follows? The answer implies so much

that it is hard to answer. First of all, the body needs the kind of physical environment that is conducive to the highest kind of physical development; the development, for example, of the vital organs such as heart, lungs, brain and kidneys. This implies all that we call physical health or hygiene. But good health involves much more than this. The child not only breathes and perceives but he responds as a whole to the world about him. If he is able to adapt himself with success to conditions facing him, we think of him as being in good mental health.

Good mental health means an integrated mental life. This seems to express itself at its best through concentration of attention. The child in the heat of play has no difficulties with dissociation. Unfortunately when he is in the schoolroom he may dawdle and form habits of dissociation. It is important that children have significant tasks and that they achieve habits of success, for the insistent idea of failure makes for dissociation.

Every school, every teacher and every course of study should aim to develop wholesome personalities. This is the most important work that the school has to perform. From this point of view it is clear that every teacher, whether she is a teacher of mathematics or of physical education, should have in mind the development of the whole child.

Dr. Burnham has summed up the matter in this way: "To learn to face reality, to acquire habits of attention and orderly association, to develop wholesome interests, to control one's emotions, to cooperate in a normal social group; in a word, integration of the individual character and an integration of the social group are more valuable than the acquistion of all knowledge and the mastery of all conventional accomplishments."



TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

HOW DO YOU DO?

INFORMATION concerning things pertaining to health can be handed out in the course of any routine lesson but inspiration for health—interest that conduces to the use of health knowledge—is not so readily aroused.

If we look about for a peg on which to hang our health lessons, we find one at hand in our daily salutation, "How do you do?" with its many variants from "Hello!" to "How is your health today?" No matter what its form we do not ordinarily notice its real meaning because of its casualness. However, we see it as we see the "man in the moon" after it is once pointed out to us. The pupil should find interest in the fact that these everyday words of greeting, though they may be used glibly, refer to health. According to the Oxford dictionary our words "salute" and "salutation" come from the Latin word for health and safety. For thousands of years people all over the world have been expressing every day an interest in health, which means that this most frequently mentioned thing must be the most important in the world.

The expression "How do you do?" suggests the real meaning of health. Health is not a thing, it is the condition in which we do our best in work or play. If we are sick, we cannot do much but lie in bed, and if we are badly fed or sleep poorly we fall short of what we might otherwise accomplish. Health is the state that permits us, according to our individual limitations, to do what we wish to do and get where we wish to go in this world. In language more intelligible to a child it helps us to have a good time.

Older pupils can be sent searching the dictionary for other words that have the same sound and also the same origin as salutation. They will find at least "salubrious" and "salutary," both of which mean conducive to health and well being. The use of these words can be studied. The things, so characterized, conduce finally to well doing.

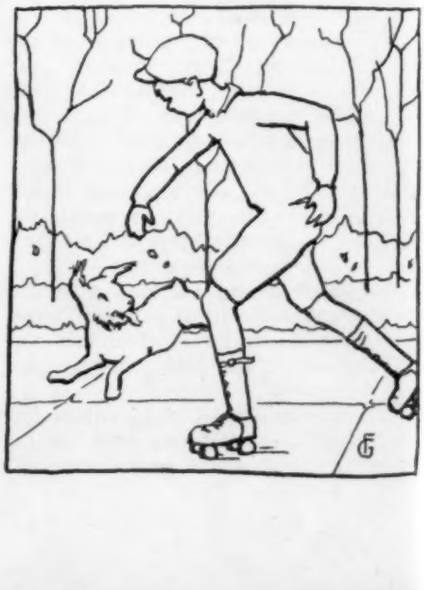
In the East, where famine still occurs and where the plagues of communicable diseases have not had their claws clipped by the application of health knowledge, daily salutations are more serious. Pupils will be interested in the following dialogue furnished by an African traveler, Angus Buchanan, in "Out of the World North of Nigeria." It is his salutation, after the native conventional and leisurely manner, with an old woman.

He: Good day!
She: Thank you!
He: Blessings on your work!
She: Thank you!
He: How are you?
She: Very well!
He: How is weariness?
She: None!
He: How is your house?
She: Very well!
He: Thank God!
She: Thank God!

It is evident that on this occasion the old lady was well, for she had no weariness. Also there was no illness at home to worry her, which suggests that the health of the mind affects the body as much as the good condition of the body helps the working of the mind.

The "Good day!" at the beginning of this salutation reminds us that what we talk about most after our "how do you do?" is the weather. We are especially interested in the weather because it has so much to do, directly or indirectly, with our well being and well doing. This opens up a large chapter in hygiene, which will serve for future lessons attached to the salutation peg. There are the matters of wide changes of temperature and the need for the addition or subtraction of clothing; the use and dangers of artificial heat and of artificial means of reducing temperature; the danger from wet clothing owing to the rapid extraction of heat from the body because of evaporation, especially in a dry room; the danger of lying on the cold ground, and the effects of continued exposure to drafts.

The weather affects our well being indirectly by good or ill effects on the crops and food sup-



ply. The dreaded famines that occur in some countries are disastrous to health and often to life, and these are the results of bad weather.

There is "Good morning!" and "Good day!" and "Good afternoon!" and "Good evening!" and there is also "Good night!" for if we do not have a good night's rest we are ill fitted for work next day. The old health habit admonition which, like our salutations, dates far back—to Benjamin Franklin—comes to mind, "Early to bed and early to rise makes a man healthy, wealthy and wise" or at least helps so to do. We need to be in bed in time for plenty of rest, so that we can be up in time to get a good breakfast and reach school without hurrying. Other things being equal, we will then do our best in play and work and have our best time.

If the subject is well handled the meaning of the daily "Good morning!" or "How do you do?" of the teacher and others will not be forgotten and the greeting will be a frequent reminder that there is something to health, since all peoples of the world for ages have had it in mind, and since without it we cannot do all that we wish to do.

Teachers cannot emphasize too much that the test of health is in our capacity for work and play. When this is understood knowledge of hygiene will stick and be used.

JAMES FREDERICK ROGERS,
U. S. Office of Education,
Washington, D. C.

A CLEANLINESS CONTEST FOR BOYS AND GIRLS

THE fact that it is so easy for the children of Ellensburg to be clean was the chief incentive for a cleanliness campaign in the fifth grade of the Edison School. The conclusion that it is easy for us was reached after we had read the stories in "After the Rain," published by Cleanliness Institute. Since there was little in our course of study for the fifth grade with which these stories could be correlated, it was a special occasion when one of them was read. There was no discussion at the time, only a thorough enjoyment and appreciation of the story. Nevertheless, the children, as discussion in hygiene class showed, felt that here were children of other lands playing and working just as they were, having their ups and downs just as they did and trying to keep clean as they should, under much more adverse conditions. I don't know yet whether it was because some of the children felt ashamed of themselves for neglecting the tub and wash bowl, or whether they had never thought them necessary before, but gradually certain hands began to show that their texture was similar to that of other hands, finger-nails were excavated, smiles showed cleaner teeth, hair grew less "bolshevik" and the air of the room was sweeter because of cleaner clothes.

Then on these gradual beginnings there burst a veritable bomb. One of the girls in the room made the remark that girls are always clean. This was flinging down the gauntlet, indeed. Immediately, the boys took offense at what they considered a slur upon themselves and the cry went up for 100 per cent in cleanliness. They hunted about for some means of checking themselves, and, lest they forgot, of checking the girls. Finally, a system was worked out by making individual charts on ordinary sheets of drawing paper. The items were carefully weighed by the children. To them clean finger-nails, carefully filed, meant as much as clean clothes. It can readily be seen that this would be the case from the children's point of view since they did all the work on their finger-nails themselves and very little of the work on their clothes. However, this was not true in all cases.

Following is the list with the percentage assigned to each item:

Teeth brushed twice daily...	20 per cent
Skin bathed at least twice a week, clean hands, neck and ears.....	20 per cent
Hair clean and brushed.....	20 per cent
Finger-nails clean and filed..	20 per cent
Clothing including stockings and brushed shoes.....	20 per cent
Total	100 per cent

Beneath this chart most of the children kept a graph so that it could be seen at a glance whether their cleanliness practices had been consistent.

In checking personal cleanliness, the boys insisted that a count be taken the first thing every morning, and no one was ever allowed to forget it. Each morning, then, the children examined themselves carefully, sometimes, if in doubt, asking the boy or girl who sat next to examine their ears, necks or finger-nails before they placed a mark on their charts. Each item and all that it included had to be clean because the children had decided that they couldn't be clean if they were partly dirty. Under the item skin, if everything else was clean and their necks were dirty, they couldn't count any points for that item. When individual checking was over, the boys' scores were placed in one column on the board and the girls' in another. These were duly added and averaged and the final score for each was placed on a room graph.

Attempts to keep clean, though gratifying to a great degree, were often quite pathetic. On the whole, the children came from homes containing every facility for keeping clean, but in some homes there was no plumbing whatever. In one of these homes lived two girls who took baths in a washtub, proudly and faithfully, twice a week. The other children seemed to have a great respect and admiration for them because they were like some of the children in "After the Rain." They were handicapped but they kept clean in spite of it. Another girl whose home was of the poorest washed her own dresses, once coming to school with her dress still wet. While this zeal may be highly commended it might have had unfortunate results. Fortunately it didn't and its further practice was discouraged. Stockings were often washed by children whose mothers could not find time to do this work often enough.

Clothing and bathing, however, were not the only items to receive attention in this campaign. One boy, much too tall and too old for his grade, offered his little sister a stick of gum every time she reminded him to brush his teeth. These incidents kept up every day. Boys who had been playing marbles were reminded to wash their hands before the bell rang. Discussions were frequent on the playgrounds as to whether each one was ready to count the 100 per cent. Sometimes children who had neglected washing their teeth would remark how disagreeable was this unbrushed state.

This was one indication of what had been hoped for from the beginning—cleanliness for the sake of cleanliness. And, truly, in a majority of cases, cleanliness habits seemed to be formed on that basis. By the end of the year the actual stories from "After the Rain" were forgotten, but the message they brought to the children I hope will never be forgotten now that they have had this taste of the luxurious feeling that continuous cleanliness brings.

TENNIE JOHNSON,
State Normal School,
Ellensburg, Wash.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

TEACHERS and parents who want to know the essentials about the spirit and technic of modern education will find this excellent volume[1] by William A. Bawldwin invaluable. As a teacher of teachers in the position of principal of the Hyannis State Normal School, Hyannis, Mass., for more than a

1. From the Old to the New Education. By William A. Bawldwin. Pp. 191. New England Publishing Company, Boston, 1930.

quarter of a century, and with a broad experience as an educator, Mr. Bawldwin has been too wise to write what might be called a learned book with the usual highly technical vocabulary. His is a book that shows much learning and rich resources in common sense. The language is simple; the illustrations are apt, and his points are clear and definite. Some of the most profound thoughts about modern education are presented to the reader in a form that could not be found easily in other books.

To make clear his point of view concerning modern education the author compares and contrasts the old and the new throughout the book. Three out of the eighteen chapters are devoted to matters of health education. Teachers will find these three chapters of value, but they will take on added significance when read in relation to the general aims of the book.

Since the curiosity of the reader may be piqued as to what constitutes the fundamental difference between the old and the new, here is a quotation from a summary in one of the last chapters of the book:

The Old Education:

1. Made the curriculum the center.
2. Came from without.
3. Was passive and receiving.
4. Made school life artificial.
5. Prepared for adulthood.
6. Was conserving.
7. Used the textbook or logic approach.
8. Cultivated deductive thinking.
9. Emphasized drill and mechanical memory.
10. Stored information.
11. Tended toward a closed mind.
12. Tended to produce conservatives.
13. Tended toward a spirit of discouragement regarding the present and future.

The New Education:

1. Makes the child the center.
2. Comes from within.
3. Is active and creative.
4. Makes school life natural.
5. Considers present needs.
6. Is evolving.
7. Uses the natural, or psychologic, approach.
8. Cultivates inductive-deductive thinking.
9. Emphasizes developing and judicial memory.
10. Encourages the gaining of knowledge.
11. Cultivates open-mindedness.
12. Tends to produce progressives.
13. Tends to hopefulness for the present and the future.

The reviewer has purposefully omitted the excellent comments on health education with their emphasis on the formation of habits and attitudes so that the reader may get some insight into the differences between what Mr. Bawldwin regards as the new and the old in education.

Are you a teacher of the old education or the new? Whether you have one attitude or the other you will find it worth while to consider your health teaching from Mr. Bawldwin's thirteen points. If you are a supervisor of health teaching you will find this book a stimulating tool in building a modern plan of health education. If you are planning a modern course of study and wish to test it out from the point of view of modern education, try Mr. Bawldwin's book as a model for guidance.

THE development of a scientific attitude of mind should be one of the aims of education. To do this the school should begin in the lowest grades by presenting authentic information to the child about the world in which he lives, to make him more observing of the phenomena of everyday life, to arouse in him a sense of appreciation, and to stimulate him to arrive at some valuable conclusions by independent thinking. Dr. Ballou and his associates have been successful in preparing a series of carefully graded books,[2] which are interesting and practical.

The editor and authors have missed a great opportunity to make these books more valuable by failing to present material on healthful living. It is evident that they were not health minded. One searches the index of each book in vain to find the word health, and a careful reading of some of the chapters that would seem to offer a real chance to teach something about healthful living are conspicuous because of the absence of such material. For example, chapters on the sun are thrillingly interesting but in the light of the modern studies of sunlight and health one might expect a few paragraphs and an illustration or so relating to the desirability of children living in the sunshine. It would have been helpful to grade teachers if the chapters on plants had told more about plant values as food.

EVERY school publication should reflect its health activities as a part of the life of the school. The bright, wide awake pupils of a progressive school in the Bronx have shown originality and zeal in this special health number.[3] The poems, letters and illustrations show that they are practicing health with satisfaction.

THIS revision of an important food bulletin[4] will be welcomed by all those who deal with the food for the family. It is thoroughly reliable, being written by an expert in the field of dietetics, and is both comprehensive and practical. Within its pages are found outlines for the feeding of children of various ages, the baby's food, meals for the entire family, and buying and marketing. At the bottom of each page are health slogans printed in large type. Among these slogans are: Give Candy Only at the End of a Meal; Make a Little Meat Go a Long Way, and No Fried Foods for Children. This booklet would be invaluable for mothers and also for teachers of health.

RECENT additions to our knowledge of tuberculosis made necessary a revision and reprinting of this important bulletin.[5] According to Dr. Kendall Emerson, who contributes the foreword: "Between the ages of 15 and 25, the incidence of tuberculosis shows a sharp rise. Apparently, adolescence is for many persons the critical period when the issue as to whether or not tuberculosis will develop as a damaging disease is determined. This problem is related to that of health training in the high schools."

The purpose of this publication is not to solve the problem but rather to focus attention on it. Evidence shows that the high school period is a neglected age and presents a variety of difficult problems with which we need to grapple.

WHAT is psychiatry? This is one of the most common questions that the teacher of psychology and mental health may be asked. While most teachers need to keep their attention focused on the normal child, yet a little excursion into this fascinating field might be worth while if the right kind of book could be provided. Dr. Noyes has written a book[6] on psychiatry which is sound and readable.

Chapter III on Mental Mechanisms is especially valuable. This would be an excellent textbook for nurses in hospitals. In the case of those studying for school service it should be studied along with cases involving difficult school situations.

2. Elementary Science by Grades. By Ellis C. Persing, Elizabeth K. Peeples, Edward E. Wildman, C. Louis Thiele and John Hollinger. Edited by Frank W. Ballou, Superintendent of Schools, Washington, D. C. Books I-VI. Appleton, N. Y., 1928-1930.

3. The Record. Issued by pupils of Public School No. 78, Bronx. January, 1930.

4. Food for the Family. By Lucy H. Gillett. Pp. 31. New York Association for the Improvement of the Poor, 1930.

5. Health in High Schools. Pp. 40. Revised. By National Tuberculosis Association, New York, 1930.

6. A Textbook of Psychiatry. By Arthur P. Noyes. Pp. 333. Price, $2.60. The Macmillan Company, New York, 1927.

Questions *and* Answers

Hemorrhoids

To the Editor:—Kindly send me any information you may have concerning hemorrhoids. I should like to know whether it is considered best to treat them or to effect a complete removal. If removal is considered best what method should be employed?

M. J. R., Minnesota.

Answer.—Hemorrhoids are dilations of the veins at the orifice of the rectum. They may be external or internal. Those that are external to the sphincter of the anus can be treated by simply slitting them open and removing the blood clot. Internal hemorrhoids can be relieved (palliative treatment) with suitable ointments, suppositories or injections and by attention to the bowels.

A much more satisfactory plan, however, if they are at all persistent and cause severe annoyance, is to have them removed by surgical operation. This may be done by ligating them and then cutting them off, or by the clamp and cautery method, and sometimes by the injection of drugs that cause the obliteration of the piles. Which is the best method of treatment in a particular case depends on the conditions present, and the question must be decided by the surgeon.

Baby of Nervous Parents

To the Editor:—Will you please tell me the best way to train a baby whose mother and father are both nervous and have stomach trouble? Should we let it nurse the breast or should it be a bottle-fed baby, even if the mother has plenty of milk? How often should the baby be fed? Is it possible for the baby to inherit a bad stomach? Is it possible to dry up the mother's milk, if she has a great deal of it?

M. L., Missouri.

Answer.—The fact that the mother and father have stomach trouble is of minor importance. Far more serious from the point of view of the baby's health is the fact that the parents are nervous. Under such conditions a nurse or helper will do much to aid the mental hygiene of the child. By all means, let the baby nurse, unless the mother is too sick.

A baby may be fed seven, six or five times in twenty-four hours. A bad stomach is not inherited.

If the baby is put to the breast regularly, the milk supply will soon adapt itself to the baby's needs. If the mother is exceedingly nervous or weak, one bottle may be substituted for a nursing.

Gasoline Burns

To the Editor:—Recently I spilled some gasoline on my right arm and shoulder and it caused large and painful burns. As an automobile mechanic, I have washed my face and arms with gasoline many times without ill effects, although once in a long while the skin burns for a moment and then the sensation is over, I have burned two small areas on my arms with gasoline at different times, but the present burns are worse and cover large areas. I spilled some gasoline on my left arm at the same time that I did on my right, but it was not affected, except for severe pains of short duration. I have read that there is little sulphuric acid in gasoline but I think that is what burned me. M. D. M., Florida.

Answer.—The difference in intensity of the gasoline burns is due largely to two factors. The first is that the skin of the face and hands is more resistant to fat-removing solvents and in the case of the hands an attempt is being made to remove adherent grease, which gives some protection against the gasoline.

While it was not so stated it is probable that in the case of gasoline burns on the shoulder, there was clothing on, so that the gasoline did not have a chance to evaporate and was present in greater concentration. In such instances, the opportunity would be greater for the removal of more fat from the skin. This, of course, would cause blistering and pain.

I doubt that there is sufficient sulphuric acid in gasoline to cause a burn such as is described.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Pleurisy

To the Editor:—Is pleurisy a form of tuberculosis? Three years ago I had an attack of pleurisy. The x-ray man said there was nothing the matter with my lungs. Ever since that time I have had attacks of pleurisy. Why does this happen if there is nothing the matter with the lungs? D. D., Texas.

Answer.—Pleurisy is an inflammation of a membrane called the pleura which lines the cavity of the chest and is reflected over onto the lungs. It is a smooth, shining membrane in the normal condition, always well lubricated so that the lungs glide smoothly over the moving chest wall. The inflammation may be due to various conditions, much the most common of which is tuberculosis.

One may have pleurisy with or without tuberculosis of the lungs.

Coffee and Tea

To the Editor:—I am the father of two boys and one girl. I allow my family tea at night, coffee in the morning, and milk at lunch. A friend tells me one cup of tea has more drugs in it than one cup of coffee. Will you let me know which of the two, tea or coffee, is least harmful?

H. H., Illinois.

Answer.—Some persons are unfavorably influenced by coffee and tea, but among the millions of persons in the world who use them daily relatively few are seriously harmed by them.

Caffeine is the chief harmful agent in both coffee and tea. It acts as a diuretic and as a cardiac, respiratory and psychic stimulant. It is used as a stimulant in poisoning by narcotic drugs, sometimes for the relief of headache, and to combat the circulatory disposition of the acute infectious diseases. Its use for this later purpose is, however, uncertain.

The effect on a person is determined by the amount of caffeine ingested. This is dependent on the total amount of tea or coffee drunk and on the percentage of caffeine, which in turn varies with the method of preparation.

It is probable that in the United States the coffee drinker obtains a larger daily quantity of caffeine than does the tea drinker.

Quartz

To the Editor:—Can you give me any information on quartz glass?

R. G. P., New York.

Answer.—Quartz is a common name for oxide of silica (SiO_2). Pure quartz is a colorless crystallized substance, but when impure it ranges through various shades of yellow, red, brown, blue, green and black. A few of the more precious crystals are of quartz mixed with some impurity. Among some of the better known crystalline varieties of quartz are rock crystal, amethyst, milky quartz and rose quartz. Strictly speaking, there is no such thing as quartz glass, quartz being sufficient. There is, however, a patented mixture manufactured into window glass that is highly transparent and is often called quartz glass.

Pure quartz is fusible at high temperature, making it difficult to handle and mold for commercial purposes. Vessels made of fused quartz can be heated to white heat and plunged into cold water without injury, a procedure not possible with ordinary glass. Apparatus made of quartz is highly important in chemistry and physics when used to study elements and gases under extremely high temperatures. It is a common abrasive ingredient of sandpaper. It is used as flux in metallurgical operations and, when powdered in soap, it is used in cleansing compounds.

The transparent property of quartz to ultraviolet light is of current interest. The colorless quartz is exceedingly transparent to a wide range of ultraviolet rays. Light passed through a prism is refracted into its components as indicated by the spectrum. Certain present-day theories claim that light or heat radiation is propagated by some form of wave motion. Some radiations have longer wave lengths than others; e. g., visible red is longer than visible blue. The wave length of red is of the order of 0.000066 cm. and the blue wave length is approximately 0.000046 cm. Likewise, infra-red rays are longer than visible red, but these radiations cannot be seen and their presence is detected by the heating effect they produce. The radiation of the spectrum with wave lengths just shorter than the blue lie within the ultraviolet region. These radiations are not visible and are detected by the photochemical effect on a photographic plate.

The so-called therapeutic range of ultraviolet radiation present in sunlight and in some artificial sources is not transparent to common window glass. The shorter ultraviolet radiations of the order of 2,000 angström units generated by artificial sources, such as the quartz mercury arc lamp, are highly germicidal and will kill readily surface organisms. This ultraviolet region and much shorter ultraviolet are freely transmitted by quartz, hence the use of quartz in the manufacture of mercury arc ultraviolet lights.

As mentioned, there are mixtures of silica made up into window glass and used as a substitute for the more expensive quartz. These ultraviolet transmitting mediums transmit ultraviolet radiation in the therapeutic zone with an efficiency ranging from about 90 per cent to 25 per cent.

Synergistic Anesthesia

To the Editor:—I have just read an article on "Easier Motherhood" published in a nationally known magazine. The method referred to as greatly aiding mothers in giving birth to children is synergistic anesthesia. It was introduced by Gwathmey and is used extensively in all New York maternity centers. It purports to alleviate greatly the hard labor pains. I am especially interested in such a method just now, as I shall soon give birth to a child.

F. G., Illinois.

Answer.—Gwathmey's rectal oil-ether combined with rather large doses of an opiate gives fairly satisfactory pain relief to many patients. It has been used extensively because of its low cost. It is contra-indicated if the patient has kidney disease or a history of an irritable colon or colitis. It is easier to administer than inhalation ether and has a definite value in labors that are long and painful, as it lessens the frequency and duration of the uterine contractions. Most physicians in private practice prefer hypodermic medication (a modified twilight sleep) for the first stage of labor and the administration of gas-oxygen analgesia for the second stage.

Obstetricians are familiar with all the methods of pain relief during labor and use the method that they like best for the individual patient.

Dental Caries

To the Editor:—Does acidophilus milk cause the teeth to decay, and is it true that the bacillus has been found in cultures taken of the cavities in teeth of persons using the milk?

N. M. M., District of Columbia.

Answer.—It has been claimed by many workers that an organism of the *B. acidophilus* type is responsible for dental caries. However, investigators in this field have not yet clearly defined the acidophilus organism that may be the causative factor in dental caries.

One of the most significant experiments in this direction was that of Howe, who some years ago placed cultures of this group in artificially prepared cavities in the teeth of dogs with the expectation of finding a development of caries. No caries developed, and this was one of the series of experiments that led him to seek in diet and other systemic conditions a causative factor of caries.

In view of the general uncertainty regarding the acidophilus organism, which appears to be more or less present in the mouth at all times and which may or may not be responsible for caries, it cannot be said with any certainty that the bacilli of acidophilus milk have been found in cultures taken from cavities of teeth of persons using the milk. There appears to be no good evidence that acidophilus milk causes caries. Saliva is a buffer medium and any acids generated by the organisms of the milk in the mouth would immediately be neutralized by the buffer capacity of the saliva.

Vitamins in Milk

To the Editor:—It appears to be everywhere asserted that pasteurizing destroys the vitamins as well as the germs in milk, and I should like to be informed, if possible, if the result is the same in the canning of milk. If the vitamins are retained in the canned milk the same as in canned vegetables and fruits, I should prefer to use it rather than fresh milk.

M. B. V., Alabama.

Answer.—Vitamin C, known as the antiscorbutic vitamin, is partially destroyed by heat, especially in the presence of oxygen. Therefore, when milk is boiled or pasteurized, as it should be when it is given to infants or young children, the child should be given orange juice, tomato juice or some other food material that is rich in this vitamin. It was found nearly half a century ago that the boiling and, later, that the pasteurization of milk would prevent bowel disturbances that followed the use of raw milk. It was not long, however, before it was discovered that children fed on this heated milk did not develop normally but showed symptoms of scurvy. The reason for this was not known until the discovery of vitamins.

Evaporated milk as well as dry milk is subjected to a moderate temperature, and therefore retains a considerable amount of vitamin C. As to whether or not children fed on these articles need more vitamin C depends on the particular case. Many physicians give orange or tomato juice to children in all cases of artificial feeding.

OLD RELIABLE

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Council on Pharmacy and Chemistry

Here is a good, old New England product—a pioneer in the evolution of a palatable cod liver oil of high vitamin potency.

You will remember that it was Patch who invented the cooker which enables the fisherman to extract the oil from the livers of fresh codfish, right out on the ocean.

Now Patch brings to you a guaranty of vitamin potency that is most important. As shown below, it means 3600 A units and 450 D units per teaspoonful dose.

Added to this high vitamin potency you have the remarkable palatability of Patch's, which overcomes the resistance of the fussy youngster—often the child who is most in need of cod liver oil during the winter season.

You have undoubtedly read the recent research which confirms the importance of the combination of vitamins A and D found in cod liver oil. When Patch's Flavored Cod Liver Oil is prescribed for you, you know that you are taking an oil of the highest vitamin potency and of remarkable palatability.

We would like to demonstrate Patch's palatability to you, and the coupon below will bring you a bottle for this purpose.

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1000 A Units per gram of oil
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Gentlemen: Please send me sample of Patch's Flavored Cod Liver Oil and literature.

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Get the Facts

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"This blood pressure instrument is somewhat like a barometer. To a sea-captain, the reading of the barometer indicates storms or fair weather ahead. To me, a reading of your blood pressure indicates easy or labored heart action."

FAULTY blood pressure may be caused by focal infections anywhere in the body, by poisoning from the left-overs of previous infectious diseases, sometimes by overweight or overwork or continued high nervous tension in either working or living conditions. But it may be caused by something more obscure. Worry, fear, anger, hate are frequently responsible for high blood pressure.

Your own blood pressure varies many points during the course of the day. In the normal person these variations are within reasonable limits. Often high blood pressure can be brought back to normal by finding and removing the cause. But sometimes it is not possible or even desirable to reduce it. Then comes a time when a change must be made in diet and physical activities if the overworked heart is to have a fair chance to carry on.

There are thousands of men and women today who are active even though their blood pressure registers many points above normal. They have learned how to regulate their lives.

If you haven't had a reading of your blood pressure within a year it is not safe to assume that it is the same as it was last year or two or three years ago. Faulty blood pressure is not like a rash or a cough that immediately makes itself known.

Blood pressure can and sometimes does steadily mount, month after month, giving no indication by pain or trouble in breathing. But when it is abnormal, doctors of experience regard it as a grave warning calling for prompt action.

Send for the Metropolitan's booklet, "Give Your Heart a Chance", which describes high blood pressure. Ask for Booklet 3-G-31 which will be mailed free.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT ONE MADISON AVE., NEW YORK, N. Y.

Tuberculosis of the Bladder

To the Editor:—Would you advise injections of alcohol into the bladder for tuberculosis that has not responded to ordinary bladder medicines taken by mouth or to mild injections in the bladder? My sister is 49, and had tuberculosis of the lungs twenty-five years ago. It was arrested, but flared up again five years ago after the use of ether in an operation for appendicitis.

E. D. E., West Virginia.

Answer.—Tuberculosis of the bladder is always secondary to renal tuberculosis. Either one or both kidneys harbor the primary tuberculosis of the urinary tract. It is entirely possible that most of this patient's debilitated condition is due to a renal tuberculosis and that the pulmonary lesion is less important at the present time. All attempts to treat a tuberculous bladder locally will fail if tubercle bacilli are constantly brought to the bladder from an infected kidney.

The patient should be examined by a competent urologist to determine whether or not both kidneys are tuberculous. If only one is affected and if the other is functioning to an extent compatible with life, the affected kidney should be removed. In from 60 to 70 per cent of such cases, the bladder symptoms disappear after removal of the infected kidney. In the remainder, such procedures as gradual distention of the bladder, fulguration of ulcer areas, weak phenol injections, and iodoform and guaiacol injections may relieve the bladder irritability and contracture.

Alcohol injections are based on the idea that the alcohol dissolves the fatty capsule of the tubercle bacillus and thus renders its destruction more certain. It is a severe treatment because of the erosive effect on the bladder mucosa. It would be futile in the case described. The patient should have competent advice from some one familiar with urinary diseases.

Trachoma

To the Editor:—Is it true that trachoma is a nutritional disturbance? I had always believed it to be infectious.

F. R. M., Tennessee.

Answer.—Trachoma is believed by some observers to be due in part to dietetic deficiency. On the other hand, the late Dr. Noguchi of the Rockefeller Institute believed that he had discovered a specific germ. Recent observation by others tends to confirm this belief, but the question is not definitely settled. It is quite possible, however, that both of these factors play a part.

Music Therapy

To the Editor:—I should like your opinion of musical therapy as an aid in the treatment of mental diseases. I understand it is being used in the East, especially in Pennsylvania, where a committee on musical therapy in the state institutions is part of the state department of welfare. Do you know whether or not musical therapy is used in Illinois, either in the state institutions or in any private institutions, as an aid in the treatment of certain kinds of mental diseases? I am a teacher of the violin and an orchestra director. I have noticed the reactions of temperaments of various kinds during the lesson periods of my students.

C. M. W., Illinois.

Answer.—"Music hath charms to soothe the savage breast." Without question music appeals to a considerable number of the insane, just as it does to the general run of the normal population. Music soothes, stimulates, distracts and comforts, according to a person's temperament and mood and to the nature of the music itself. Further than this, we cannot go at present in a discussion of music therapy for the insane.

There is at the state hospital, Elgin, Ill., a central radio system with music distribution to all the wards, and the patients enjoy this music. It gives them something to think of aside from their own troubles, real or imaginary; but so far as any specific effect goes we have no right to draw conclusions. If we consider mental disorder to be only a further development of personality characteristics, albeit in a distorted fashion, how can we expect a specific reaction to occur in different types of disorder? The audiences at hospitals for the insane at entertainments enjoy the voice, the violin and other instruments about as does the average audience.

Some thorough research work should be done along the lines suggested in the inquirer's letter, but until this is carefully done nothing definite can be said.

Diet for Epilepsy

To the Editor:—Please give me information about the diet for epilepsy. J. P., Indiana.

Answer.—The only diet for epilepsy is known as the ketogenic diet, which has proved of considerable help, especially in children. Fundamentally it consists in giving a limited amount of protein food and a large amount of fatty food. It is not devoid of danger and must, therefore, be prescribed and its use carefully directed by the physician in charge of the case.

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~ so *delicious*

that millions of children and grown-ups welcome it eagerly

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During National First Aid Week. Over 42 Stations of the Columbia Broadcasting System. Saturday, March 14: Sunday, March 22, 3 P.M, E.S. T. and another date to be announced.

THERE IS NO SCRATCH TOO SMALL TO NEED THE PROTECTION OF *IODINE*. THERE IS NO INJURY TOO GREAT BUT THAT YOU CAN HELP RENDER IT FREE FROM INFECTION BY THIS MOST PERFECT GERMICIDE.

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Nothing takes the place of Iodine

Catarrhal Deafness

To the Editor:—Do you know of any treatment for catarrhal deafness? What location in the United States is best for relief or cure? M. G. H., Wisconsin.

Answer.—By catarrhal deafness is meant the impairment of hearing that results from a catarrhal inflammation of the middle ear. It is the most common form of deafness. There is no specific cure for this trouble. In the early stages the catarrhal inflammation can often be relieved and controlled to such an extent as to arrest the progress of the deafness and sometimes completely to restore the normal hearing. In many cases, however, the catarrhal trouble persists with gradual impairment of hearing.

Every person so afflicted should be in the hands of a competent specialist in diseases of the nose, ear and throat.

In general, a warm, dry, equable climate proves best for persons with this trouble, but there are numerous exceptions. The only way to make sure that a certain climate is favorable is to try it.

Fresh Bread; Graham Bread

To the Editor:—Is freshly baked bread more harmful than bread a day or two old? If so, why? Why is graham bread more healthful than white bread? T. R., Tennessee.

Answer.—Freshly baked bread is not as readily digested as stale bread because, in chewing, fresh bread is swallowed as a more or less solid bolus instead of in smaller separate particles; therefore, not so large a surface is exposed to the action of the digestive secretions.

When bread is eaten as a part of a mixed diet, there is no advantage in taking graham bread. If bread were the only food taken, graham or whole wheat bread would have an advantage in that certain vitamins and salts that are contained in the bran and germ of the wheat are lacking in white bread.

Late Marriage

To the Editor:—A woman of 30 and a man of 60 are considering marriage. What hope have they of having children? T. S., Ohio.

Answer.—Marriage between the couple described, assuming both parties to be in the best of health, may be followed by children. This could be more satisfactorily determined, however, by a personal physical examination, a procedure to which every one contemplating marriage should subject himself.

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OLD DUTCH CLEANSER
IS YOUR TIME-SAVING HOUSEHOLD HELPER

• Indeed, Old Dutch *cleans quicker!* Quicker than anything else. The tiny Old Dutch particles, flaky, flat-shaped and naturally efficient speed up and ease up your cleaning—and thereby give you more time.

• Every housewife appreciates this splendid Old Dutch quality. That's natural. But there's this, too, to be said for Old Dutch: It cleans perfectly. No dirt escapes Old Dutch—visible or invisible, surface dirt or clinging impurities. All disappear. That's why Old Dutch brings wholesome Healthful Cleanliness into homes. Whenever you clean porcelain, enamel and tile, use Old Dutch. There's where Old Dutch first gained fame. Today, as always, it is the perfect cleanser for smooth, sparkling surfaces. Protecting their beauty and brilliance, Old Dutch keeps lovely things lovely. That's easily understood when you realize Old Dutch is free from harsh grit and doesn't scratch. Perfectly safe for all cleaning, and kind to the hands.

• Any surface on which water may be used is best cleaned by Old Dutch. You'll find it a convenience to buy three packages at a time—keep it in the bathroom, kitchen and laundry—it's all you need for all your cleaning. A little goes a long way.

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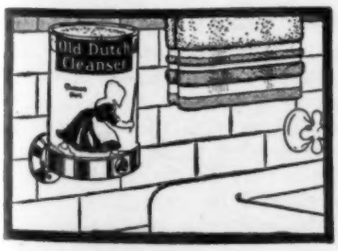
It is easy to obtain one of these holders! First clip out from three Old Dutch Cleanser labels the white windmill panel appearing above the directions. Mail these, together with 10c and your name and address. Fill out the coupon today.



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Keeps Your Armpits Dry and Odorless

NONSPI destroys the odor and diverts the underarm perspiration to parts of the body where there is better evaporation—and need be used on an average of but two nights each week.

NONSPI will also protect your clothing from those ruinous, discoloring, destructive perspiration stains, in addition to keeping your armpits dry, odorless and sweet.

More than a million men and women keep their armpits dry and odorless and save their clothing by using this old, tried and proven preparation which is used, endorsed and recommended by physicians and nurses.

Get a bottle of NONSPI today. Apply it tonight. Use it the year around—spring, summer, fall and winter. Your Toilet Goods Dealer and Druggist has it at 50c (several months' supply) or if you prefer

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TRAILER BRINGS DENTIST TO SCHOOLHOUSE DOOR

Santa Barbara County in California, through its public health service, is providing dental care for the school children. A trailer on an automobile carries complete dental equipment to the schools. Examinations are made and the work is done in the trailer.

The work was started in 1929. During the first six months, 2,195 children were examined, only 617 of whom did not need repair work. Among the remaining, 5,723 cavities were found; 1,208 teeth were extracted; 889 cement and 705 silver fillings were placed and 329 silver nitrate treatments were given to the children.

The care is not limited to the children who are financially unable to go to a dentist, but is given to all children who secure the permission of their parents for the work.

Of the 2,195 children examined, 211 were Japanese, 482 were Mexican and 1,502 were white.

ROOT SUCCEEDS TAFT IN HONORARY CHAIR

Elihu Root has been elected honorary president of the National Society for the Prevention of Blindness to fill the vacancy made by the death of William Howard Taft. Mr. Taft had held the post since 1915.

Sight Seeing Review, a new publication of the society, appeared in February. It is edited by Lewis H. Carris, the managing director of the organization, and is designed to interest industrial workers, health authorities and educators in the cause of blindness prevention.

QUARANTINE ORIGINATED AT VENICE IN 1374

Quarantine, the oldest method used for the control of infectious diseases, originated in Venice in 1374 when infected ships from ports having the plague were denied entrance to the city for a period of forty days. In 1377 the city of Ragusa quarantined ships from plague ports for one month.

CAMP EXAMINATIONS SHOULD BE EARLY

An early health examination for the children who plan to go to summer camps will allow ample time to correct the defects that are found. Teeth may need to be extracted or the tonsils may be diseased, both of which should be remedied before the child embarks for camp.

Good health will enhance your outdoor pleasure...

. . . Have a Health and X-ray Examination Regularly

FROM the first crocus peeping through the snow to the last stately dahlia, the outdoor activities of spring and summer afford some of life's greatest pleasures. But like all other pleasures, they can be dimmed or even destroyed when health is not up to par.

Most serious illness originates in *hidden* causes that can be detected and eliminated by periodic health examinations and early treatment. Physicians employ radiographs (commonly called x-rays) generously in complete physical examinations, because x-rays penetrate where the eye cannot see, and aid in diagnosing *internal* ailments. Your physician can keep you well only when you give him every assistance in preserving your health.

"How X-rays Aid the Public" tells of the value of x-rays. A copy will be sent free upon request.

For a quarter hour of stimulating entertainment, tune in on "Devils, Drugs, and Doctors," broadcast each Sunday evening at 8 o'clock E. S. T., over a coast-to-coast network of the Columbia System. These talks, sponsored by Eastman Kodak Company, are given by Dr. Howard W. Haggard, Associate Professor of Physiology, Yale University.

EASTMAN KODAK COMPANY, *Medical Division*
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Gentlemen:
Please send me "How X-rays Aid the Public."

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Does *your* child like Milk?

He will in this attractive easy-to-make disguise

YOUNGSTERS like the dainty flavors and custard-like consistency of junket. It is the easiest thing in the world to convince them that ice-cold junket tastes as good as ice-cream. Especially if you top it with chopped nuts, tiny candies, chocolate syrup or crushed fruit. In addition to its "party look" junket contains an enzyme* which makes it easy to digest.

Quick and easy to make! No eggs—no cooking—*junket sets in 10 minutes.*

* The ENZYME in Junket is the means provided by Nature to bring about the first important step in the digestion of milk.

5 out of every 6 authoritative texts on child care recommend

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Please send me item checked below:
☐ FREE. Recipe Book of Delicious Desserts and Ice Creams.
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My name .....
My address .....
City ..... State .....
My grocer .....
His address .....
Does he sell Flavored Junket? Yes [ ] No [ ]

BRITISH DOCTORS FIGHT FOR VIVISECTION

Antivivisectionists in Great Britain are trying to get a bill through the House of Commons to prevent expenditure of public money for vivisection experiments. The bill is merely a part of another bill introduced in 1922 and again in 1924, which was defeated at both instances.

In opposing the bill, the British Medical Association points out: That only license holders may use animals for experiments in registered places; that no experiments are permitted by the law that already exists, except those carried out for the advancement of science; no cutting is permitted unless sufficient anesthesia has been administered; many of the experiments are done as a part of the regular routine of public health work in testing the strength of vaccines and other drugs before they are given to people.

It is not always understood by those taking up the crusade against vivisection that the term vivisection includes the type of work in which animals are used to test drugs before they are given to human beings and that many lives are saved each year as a result of animal experimentation and the production of vaccine by animals.

NEW HEALTH DIVISION WILL FIGHT NARCOTICS

Two narcotic farms for the treatment of persons addicted to the use of drugs will be administered by the newly created division of mental hygiene in the United States Public Health Service. Dr. Walter L. Treadway has been named the director of the division.

The division will supervise and furnish medical and psychiatric service to federal penal and reformatory institutions. It will conduct studies on the cause and correction of mental and nervous diseases.

CHICAGO DENTISTS GIVE CARE TO UNEMPLOYED

A ninety-day dental clinic for unemployed persons was opened in January by the Chicago Dental Society, cooperating with the school of dentistry of Northwestern University. Emergency work was performed only on those patients referred to the clinic by reputable social agencies. Chicago dentists donated their services.

I'd rather have a fool to make me merry than experience to make me sad.—Shakespeare.

Starch and Sugar

RESTRICTED DIETS

Often require bulky foods to take the place of the more concentrated food omitted from the diet.

CELLU BRAN WAFERS

help to fulfil this purpose because they are composed almost entirely of cellulose and because they do not add any nutriment to the diet.

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due to their bulk, help satisfy hunger and serve as an enjoyable accompaniment to salads, tea, broth, etc.

SAMPLES sent to patients upon request

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HOW OFTEN *Should You Shampoo Their Hair?*

ONCE a week, even in mid-winter, is not too often for a DERBAC Health Shampoo, according to the best authorities.

DERBAC is the perfect cleanser—stimulates hair growth and protects against Pediculosis and other head infections.

Used and recommended by Boards of Health and Education everywhere.

FREE—Amusing booklet to interest Children in Hair Care. Mail Coupon.

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CEREAL SOAPS CO., INC., Dept. H-3
334 East 27th St., New York, N. Y.
Please send free copy of "Funny" booklet.
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SHOULD USE TUBERCULOSIS SANATORIUMS MORE

Tuberculosis has not been conquered in spite of the preventive work being done and of the decrease in the death rate during the last twenty years, Dr. Paul B. Brooks reminded a radio audience recently.

At the present time there are more than 21,000 cases of tuberculosis in New York state outside of New York City, Dr. Brooks declared. Considering the fact that about 8,000 of these were discovered during 1929, complacency is hardly justified, in Dr. Brooks' opinion. Doubtless there are many more who do not know they have the disease and are therefore innocently spreading it to others.

Sanatorium facilities are not being used to their fullest extent in New York state, Dr. Brooks reports. Statistics for the fiscal year just finished show that 1,100 additional patients could have been treated for three months each. Every community should be made to realize that the sanatorium is one of the most important elements in the control of tuberculosis, not only for treatment but also as a means of limiting the spread of the disease.

DOCTORS ARE HONORED FOR WAR WORK

Dr. Frank Billings, Chicago, and Dr. Goldwyn W. Howland, Toronto, Can., have been elected honorary life members of the American Occupational Therapy Association. Both Dr. Billings and Dr. Howland were named in recognition of their services in the development of modern methods in curative occupations for the sick and disabled soldiers during the World War period.

HOSPITAL EARNINGS ARE DECREASING

The United Hospital Fund reports from a recent survey that hospitals already are confronted by a decrease in earnings of from 1 to 22 per cent from paying patients and increased maintenance costs ranging from 1 to 21 per cent, in addition to a 10 per cent increase in demands for free and partially free service.—*Better Times.*

PUBLISHER EVALUATES CANCER CURE

Publisher Adolph S. Ochs of the New York *Times* intends to devote the first six pages of his paper to cancer news when a cure for cancer is discovered, no matter if the United States is being defeated in a war.—*Time.*

when Spring is just around the corner

...the health squad should be more vigilant than ever

MARCH, the so-called first month of spring, is really winter's final gesture. Its rains, its slush, its penetrating damp cause many a child—whose body has been weakened by winter—to succumb to disease. Mortality figures reach their peak during this dangerous month.

How is your child? Is he well and strong? Or is he below the normal in weight and height? Perhaps his diet lacks Vitamin B.

This important vitamin promotes growth, reduces digestive disturbances. The other vitamins are equally necessary as policemen of the body, guarding it against stunted growth, rickets, scurvy and colds.

Fortunately, you have a rich source of these important vitamins in Maltine With Cod Liver Oil. Maltine, 70%, is a concentrated extract of malted barley, wheat and oats—rich in Vitamin B. The remaining 30% is vitamin-tested cod liver oil (Vitamins A and D). Taken in orange juice in adequate dosage (Vitamin C) this preparation *provides a sufficient quantity of the four vitamins* (A, B, C, D) *to promote health.*

Insure vitamin balance for your child. Keep a bottle convenient in the kitchen cabinet, and stir it into the child's orange juice. When buying, specify Maltine With Cod Liver Oil—children take to it readily. They enjoy its honey-like taste.

Every mother should read the booklet, "The Doctor Talks About Vitamins." May we send you a free copy? The Maltine Company, 30 Vesey Street, New York City. Established 1875.

On the RADIO
The Maltine Story Hour
every Monday afternoon at 5 o'clock (Eastern standard time) on coast-to-coast hook-up over WJZ and associated stations of the N. B. C.

The A B C's of Vitamins

A "OFFICER A" *is essential to normal growth and helps protect against certain infections, especially those that attack the respiratory system. Maltine With Cod Liver Oil is a recognized rich source of Vitamin A.*

B "OFFICER B" *is most essential. Lack of Vitamin B results in loss of appetite, a cessation of growth, and the appearance of certain nervous disorders. Vitamin B (the Maltine vitamin) is found in abundance in Maltine With Cod Liver Oil.*

C "OFFICER C" *prevents scurvy. Orange juice is everywhere recognized as very rich in Vitamin C. That's why we recommend this policeman.*

D "OFFICER D" *is also necessary. A deficiency of Vitamin D causes rickets, that weakener of child bones. Sound teeth depend upon it. It is meager or lacking in all our ordinary foods. Maltine With Cod Liver Oil is rich in Vitamin D.*

Maltine
WITH COD LIVER OIL

Accepted by the Council on Pharmacy and Chemistry of the American Medical Association

KEEP HANDS THAT WASH DISHES FIT TO PLAY BRIDGE

No longer need housework leave all its tell-tale imprint on fair hands. Nivea Creme will help to keep busy home hands fit for the social graces.

Patted into your hands two or three times a day, Nivea* Creme penetrates deeply, leaves no greasy residue, softens, refreshens and beautifies — definitely aids in keeping your skin youthful and lovely. Use it as a face creme, also as a night creme, cleanser or powder base—it keeps your face and hands soft and smooth as your sheltered body skin. Try it — in tube or attractive porcelain boudoir-jar — ask for the blue and white package at the better drug or department stores.

* *Trade-Mark Reg. U. S. Pat. Off.*

NIVEA (Pronounced Niv-ee-a) CREME

Body Beauty for your Face and Hands

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200 Hudson Street, New York City
Send me free of charge a trial tube of Nivea Creme.
Name.....
Address.....

DOES CLOTHING MAKE THE DOCTOR?

A great many people seem to have no faith in a medical man unless he is clothed in the orthodox garments of a black coat and striped trousers, says T. J. Reid in the *Scottish Health Magazine* published in Glasgow.

At the same time, he says, that he knew a woman who for years had suffered from indifferent health, but who had never had the courage to seek professional aid, through an innate fear of medical men. On a holiday in the country, she became ill and had occasion to call in a practitioner. He duly arrived on a motor-bike in a pair of plus-fours. His friendly manner and unorthodox garment soon assuaged her fears. When in the course of his attendance he had occasion to visit her in a kilt, her fear of medical men fled forever.

Now I am not advocating the adoption of the kilt, says the author, nor of shorts as the orthodox garment for the medical profession on all and every occasion, for worn to visit a dying patient they would betoken a callous disrespect of which it is hoped few medical men would be found guilty.

Equally of course a country practitioner visiting his patients on a motor-bike would be unable to sport the top hat and frock coat of the west-end city doctor. Be that as it may, the old sombre garment of the medical profession is slowly but surely becoming a thing of the past, the Scotch writer concludes.

JOURNAL ON CANCER CHANGES NAME

The *American Journal of Cancer*, a quarterly magazine, has supplanted the *Journal of Cancer Research* published since 1916 by the American Association for Cancer Research. Dr. Francis Carter Wood, director of Columbia University Institute of Cancer Research, is the editor.

Annals of Surgery for January appeared with all fifty-four of its articles devoted to the subject of cancer, written by fifty-four cancer specialists of the world.

AUSTRALIAN UNIVERSITY BENEFITS BY U. S. FUND

Five hundred thousand dollars has been contributed by the Rockefeller Foundation to the University of Sydney to provide medical laboratory facilities.

Forty is the old age of youth; fifty is the youth of old age.
—*Victor Hugo.*

Mother, keep your baby safe
from loose pins and buttons

Vanta
Baby Garments
No Pins No Buttons

PROTECT the tender little body. Keep Baby safe from pricking pins and twisted buttons, and danger of swallowing a pin or a button. Vanta Baby Garments tie with dainty bows of twistless tape making them always comfortable, never too tight nor too loose, adjustable as baby grows. No turning or twisting to dress him so safely in the softest, downiest Vanta Quality Garments and Hosiery that Mother-love can desire.

DOCTORS and nurses everywhere recommend Vanta which originated the idea of dressing babies without pins and buttons for the first two years. Every prescribed weight of knitted fabrics in silk, wool, Irish linen mesh, rayon, sase, cotton, fashioned so carefully for tiny bodies. Every Vanta Garment is guaranteed non-shrinkable, always giving perfect protection.

Vanta Self-Help Garments

After Baby is two years old, Vanta Self-Help Garments, bearing the Red Heart label, make it easy to teach him to dress himself, thus saving Mother's time, and at the same time training Baby's mind.

Ask your store for the original Vanta Garments. If you cannot get them write EARNSHAW KNITTING CO., Inc., Dept. 1000, Newton, Mass. In Canada, write J. R. Moodie Co., Ltd., Hamilton, Ont.

FREE TO YOU

Vanta Pattern, also "Baby's Outfit," a book of 64 pages on care and dressing of babies.

Earnshaw Sales Co., Inc.
Dept. 1000, Newton, Mass.
Without charge now or later send pattern and full instructions for making the new Vanta square-fold, pinless diaper. Also Baby's Outfit book and illustrated catalog, all in plain envelope.

Name.....
Address.....
City..... State.....

HORSE PRODUCES SERUM FOR 30,000 CHILDREN

Doc Dobbin, the oldest horse in the antitoxin service at the laboratories of E. R. Squibb & Sons, New Brunswick, N. J., has given enough antitoxin to treat 30,000 children during the last nine years. Doc recently celebrated his fourteenth birthday.

Horses in the antitoxin laboratories are injected with the toxins of diphtheria. They become sick at first but as soon as they recover they are given another dose. They keep building up immunity with each dose until they can stand many more germs than they first received. Blood is drawn once a month from a horse's neck and the serum is extracted, which contains the substances formed by the horse in fighting the disease. This serum is then used for immunizing patients with diphtheria.

Between times the horses in the laboratory have a happy life of resting and eating well.

NEW YORK ENFORCES ANTI-NOISE LAW

Noise abatement in New York City is a part of the program of the New York Department of Health. Strict enforcement of the anti-noise ordinance has resulted in the curtailment of the use of loud speakers in front of radio shops, and of loud radios in homes during late hours.

Types of automobile horns have been investigated with the object of getting a standardized horn that will give sufficient warning without producing a shock to pedestrians' nerves. Noiseless turnstiles are being installed in the subways.

New York motorists are being warned not to blow their automobile horns excessively and the use of police whistles has been abandoned.

TRAIN YOUR CHILDREN TO CROSS STREETS

Train a child to cross the street by letting him look for vehicles while the parent is there to check him, advocates Dr. Ada Hart Arlitt, professor of child care and training at the University of Cincinnati.

It is always best to make the child feel safe because he knows how to be safe, says Dr. Arlitt. If the child has been practicing from the age of 2 until he is 6, there will be no danger in letting him go to and from school by himself.

Cancer was the cause of more than 10 per cent of the deaths in New York City during 1930.

This little matter of handkerchiefs . .

Take handkerchiefs as an example! Even those of us who always keep them clean—who usually carry "spares"—occasionally fail to use them to muffle our coughs and sneezes.

The use of towels is another instance of easily neglected but important details. Careful washing of dishes and frequent washing of hands are other examples.

All of these seem small and unimportant. Yet it is through neglect of cleanliness in such matters as these that disease is frequently spread.

But how to impress the importance of care and cleanliness upon the minds of those who look to you for advice and assistance? (Perhaps your own children; perhaps your patients, if you are a physician or nurse). If you are interested in answering that question you should send for a copy of *Hitch-hikers.*

Hitch-hikers is an unusual booklet about microbes that "hitch-hike" from person to person—spreading communicable disease.

Single copies are free to health and school administrators, physicians, nurses, teachers; to others, 15c per copy. We invite you to send for a copy. Use coupon below.

CLEANLINESS INSTITUTE

Established to promote public welfare by teaching the value of cleanliness

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Please send me one copy of *Hitch-hikers.*

I { am entitled to a free copy / enclose 15c to cover printing and mailing costs)

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Title (physician, nurse, parent, etc.).....

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City..... State.....

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A wealth of material for teachers and pupils

$1.00 PER YEAR

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ONE PARK AVENUE • • NEW YORK CITY

Representatives Wanted • Write Hygeia

NEWSPAPERS CONTINUE TO SIDESTEP SYPHILIS

When the National Society for the Prevention of Blindness sent letters to a score of newspaper editors in different parts of the country asking their cooperation in giving publicity to the subject of syphilis as a cause of blindness, only one newspaper followed with an article on the subject.

A few years ago no editor would have discussed syphilis as a cause of blindness calling the disease by the common name, says *Editor and Publisher.* However, conscientious, fearless newspaper men are increasingly attacking matters that have been ignored by previous generations. Nevertheless, frank and candid discussion of this subject in the newspaper would still be rejected not so much by the ignorant as by our best people, thinks the editor of *Editor and Publisher.*

SOFT FOOD IN ENGLAND WEAKENS TEETH

English people eat soft foods that do not provide the vitamins to harden their teeth, writes Dr. Boyd S. Gardner in the *Journal of the American Dental Association.* Teeth of the English people are irregular and they pull with ease. Extraction of teeth in Great Britain is done mostly with the aid of general anesthesia, says Dr. Gardner.

Dentists in Scandinavian countries are forbidden by law to use general anesthesia and their methods of administering local anesthesia are superior to those in other countries, thinks Dr. Gardner. Teeth of the Scandinavian people show abrasion from rough food and they have heavy roots, making them difficult to extract.

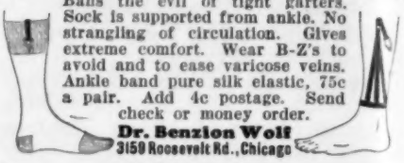
SALMON MEMORIAL FUND WILL FINANCE LECTURES

A $100,000 memorial fund raised by the friends and admirers of the late Thomas W. Salmon, professor of psychiatry at Columbia University and medical director of the National Committee for Mental Hygiene, has been placed in the custody of the New York Academy of Medicine.

Each year the academy will choose a scientific worker who has made an outstanding contribution to the field of psychiatry and mental hygiene, to lecture under its auspices. The lectures will be published annually in book form.

Headache and disease are not far apart. Headache in persons unaccustomed to it is a serious symptom.—Hughlings Jackson.

THE B-Z-GARTER 3 Patents and Patents Pending



Bans the evil of tight garters. Sock is supported from ankle. No strangling of circulation. Gives extreme comfort. Wear B-Z's to avoid and to ease varicose veins. Ankle band pure silk elastic, 75c a pair. Add 4c postage. Send check or money order.

Dr. Benzion Wolf
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Thumb-Sucking
JUBILEE BABY ARMLET
Aluminum—Adjustable
$1.00 Pair
Also corrects Nail-Biting

A safe, easy, kindly way. Invaluable if suffering from Eczema or other skin disease. Allows free movement, even considerable bending of elbow. Loose fitting, light, sanitary, cool. Snap fasteners, adjust to 5 different sizes. Handy. At drug or surgical supply houses, or postpaid on receipt of $1. If more convenient, order C.O.D. and pay postman $1.10 on delivery.

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"OVR-NITE" Reg. U.S.P.O. HEATING PAD

Stays Hot 15 Hours
Prepared with 1 oz. of hot water

The "Ovr-Nite" Heating Pad is invaluable wherever heat applications will relieve pain or congestion, as in toothache, neuralgia, neuritis, lumbago, menstruation; also for keeping hot compresses hot, and for the infant's crib. Ready for use almost immediately on addition of water. Retains temperature of 170° to 175° for fourteen hours. Can be cooled at will. Soft, pliable, no possibility of leakage. Life of each pad guaranteed to be 120 hours. Does not deteriorate with age; lasts until consumed by actual use.

Two pads with washable rubberized cloth cover, $1.40 prepaid
Additional pads, 55c each, prepaid

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Scientifically designed in types of models for all figures, gives low abdominal uplift with no constriction.

Special feature—Original patented adjustment supplying sacro-iliac support and easy regulation to size and pressure as required.

Wonderful reaction to normal health, and mental and physical buoyancy.

Write for special information.

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TUBERCULOSIS DEATHS VARY WITH RELIEF

Deaths from tuberculosis in various countries of the world correspond to the amount of relief work carried on in each country and to the density of the population. When the population is sparse and when there are a large number of sanatoriums the rate is low as it is in New Zealand and in the United States. Other countries having a dense population and little relief work have a high rate.

The low rate in New Zealand is accounted for by the sparse population, which is mostly rural, and the lack of poverty in that country. The habit of the New Zealand housewives of boiling milk before it is used has killed many tuberculosis germs before they had a chance to reach the human body.

Rates in various countries per hundred thousand population are: New Zealand, 49; United States, 80.8; Denmark, 81; Canada, 84.6; Netherlands, 94.9; Great Britain, 97; Germany, 98; France, 164; Norway, 194; Czecho-Slovakia, 194.1; Finland, 222; Hungary, 241.9.

SIX BILLION POUNDS OF MILK USED IN ICE CREAM

Five per cent of the milk produced in the United States each year goes into the manufacture of ice cream. A report from 4,000 ice cream manufacturers in the country shows that last year they used 6,000,000,000 pounds of milk, 243,000,000 pounds of sugar, 5,000,000 pounds of butter gelatin and 174,000 pounds of milk solids.

Since ice cream was first introduced into China five years ago by a shipment from Seattle, more than a dozen plants for its manufacture have been started in Shanghai.

ICELANDIC RED CROSS BUILDS REFUGE HUTS

Refuge huts for stranded fishermen along the shores of Iceland are being constructed by the Icelandic Red Cross. Since many of the fishermen are from other countries—the Netherlands, Norway and Great Britain—the Red Cross of those countries will be asked to cooperate.

FROM NEUSTÄTTER ALMANAC

The two drawings on "modern blood brothership," which appeared in HYGEIA for December and which were credited to Miss Krause, were executed by her but the ideas were Dr. Otto Neustätter's and the drawings were taken from Dr. Neustätter's Gesundheitskalendar.

A.N.D.R.

The action of the Council on Dental Therapeutics of the A. D. A. in placing Colgate's upon its list of Accepted Non-Official Dental Remedies is of the utmost significance to every member of the dental profession.

It means that you can now recommend to your patients this safe and effective cleanser with the full assurance that you are acting in accordance with the policy of the A. D. A.

COLGATE'S
3BON DENTAL CREAM
This product is acceptable to the Council on Dental Therapeutics of the American Dental Association

"I don't care what the doctor said ...I won't take it"

BETTY

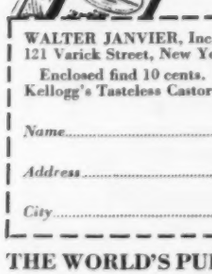
AND you can't blame little Betty. Try taking old-fashioned castor oil yourself, sometime. You'll agree with Betty.

The next time the doctor says, "Give her a good dose of castor oil" —send out for Kellogg's Tasteless. It's the world's purest castor oil with the nasty taste and smell removed.

TO BE SURE IT'S TASTELESS BE SURE IT'S KELLOGG'S!

Do not let anyone give you so-called "tasteless" castor oil bought in bulk and put up in his own bottles. This tasteless castor oil to retain its tasteless character and freshness, is bottled and sealed immediately upon refining *at the refinery*. Kellogg's is pure, fresh castor oil with the castor oil taste removed by super-refining. It comes to you in the original *refinery-sealed* bottle. Look for the label, the sealed top and the Good Housekeeping Star on the outer carton.

BOBBY



TEST IT—FIRST

Prove to yourself and children the easy-to-take character of Kellogg's Tasteless Castor Oil. The coupon and 10c brings you a generous trial bottle postpaid.

WALTER JANVIER, Inc. 3-H-3
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Enclosed find 10 cents. Please mail trial bottle of Kellogg's Tasteless Castor Oil.

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THE WORLD'S PURE CASTOR OIL

YELLOW FEVER IMPORTED WITH SLAVES FROM AFRICA

The scourge of yellow fever was imported to America by the slave trade from Africa to the West Indies in the seventeenth century. The first epidemic was reported on the island of Barbados in 1647, where one third of the people died within eighteen months. Soon after, the lines of trade carried the infection to Charleston, S. C., and to Philadelphia.

A naval expedition from France bound for Canada in 1692 arrived with the report that 1,300 of 2,100 sailors aboard and 1,800 of 2,400 soldiers had been buried at sea.

Doctors everywhere began a frantic search for the cause. In Philadelphia, it was thought that rotten coffee on the docks had been a factor, especially since the disease had kept close to the shore. In some cities, the sewers were blamed. Flat lands harbored the curse more than the high lands.

Dr. Rush, in Philadelphia in 1699, noted that there were a great number of mosquitoes in the city at the time of the epidemics. Dr. Nott of Mobile, Ala., thought that the disease was transferred by an insect that kept close to the ground. In 1854, Dr. L. D. Beauperthuy, a Frenchman in Venezuela, said that it was caused by the bites of mosquitoes. But, as yet, the cause had not been proved.

The quest was fruitless until 1900, when the United States government began to fight the disease in Cuba and Porto Rico. Experiments carried on under the direction of Major Gorgas, health commissioner of Havana, and Major Wood, the governor of Cuba, definitely proved that the mosquito was the offending insect, and the only means of the transmission.

In Panama, Cuba and the United States, there is no longer a danger from yellow fever since health authorities have demonstrated their ability successfully to cope with it. At present, it is found only in West Africa and Brazil.

NONPROFIT HOSPITALS ARE IN MAJORITY

A survey of the hospitals of the United States by C. Rufus Rorem in his recent book, "The Public's Investment in Hospitals," shows that 91 per cent of the three billion dollar investment in the 7,000 hospitals in the country has been provided by the government and other nonprofit associations.

To be ignorant of what happened before you were born is to be forever a child.—*Cicero.*

FIGHT INFECTION

Ask Your Doctor

Spraying several times daily to keep the nose and throat passages clear and clean is a common prescription by the physician. Remember that DeVilbiss Atomizers apply medication gently and scientifically to tender tissues. That is why doctors have prescribed them for over 40 years. At all druggists.

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The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use

PREVENT THAT SNIFFLE

Humidified air prevents many of those colds baby has due to dry heat in your home. What you need is a

BUDDINGTON HUMIDIFIER

"THE WICK DOES THE TRICK"

THE linings of baby's nose and throat are extremely sensitive, and dry, heated air irritates them. Fussiness, so often unexplainable in babies, is due in many cases to dry air that may go unnoticed by the grown ups. Buddington Humidifiers, by moistening the air, will help baby to breathe more easily—and to be more comfortable.

Buddington Humidifiers range in price from $2.75 up. Write for leaflet giving complete information.

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CLOTHES AND FURNITURE AFFECT CHILD'S POSTURE

The posture of a child is easily affected by the kind of clothing worn, by furniture, and by the carrying of books and school bags, writes Jane Lingg of the Ethical Culture Schools in New York. A child with tight or short shoes, underclothing that binds, an underwaist that weighs down on the shoulders or tight elastic at the knees is likely to have poor posture.

Correction of the posture defects of the children in the Ethical Schools has been a part of the program since 1928. At that time 160 children out of 240 pupils examined were found to have defective posture. Sixty-eight of the worst specimens were selected for special attention. A few minutes each day were taken with corrective exercises. At the end of the spring term of 1929, fifty-four of these children showed marked improvement.

SOURCES OF INFECTION SHOULD BE REMOVED

Removal of the tonsils in children with enlarged glands in the neck following an illness with tonsillitis is the best method of relieving the condition and of preventing the complications that mostly follow, writes Dr. Harvey L. Baum in *The Journal* of the American Medical Association.

Often the child does not feel ill, when he is affected with swollen glands, though he may have a fever from time to time. Yet, if the tonsils are removed soon enough it is likely that such complications as otitis media (abscess of the middle ear), anemia and kidney diseases can be avoided by eliminating the source of infection, before it spreads to other parts of the body, says Dr. Baum.

PALESTINE UNIVERSITY FIGHTS MALARIA

Modern control methods for malaria are finding their way into Palestine since the World War. The department of hygiene at the Hebrew University, recently established, has been named by the Health Section of the League of Nations as one of the stations for research on malarial problems.

The University is at Rosh Pinah near the great Huleh plain, an extensive marsh covering 15,000 acres. Malaria in Palestine dates back to the Roman and Byzantine period when the fields were canalized. Later the flood gates were opened to force out an enemy, inundating the country and infesting it with mosquitoes.

Now Dick is a "crank" on clean hands

. . . since he's been playing the Wash-up Game

NOTHING "sissy" about Dick. He can swat a ball farther—shinny up a tree faster than any other boy in the neigborhood. And his hands just naturally seem to attract dirt.

But now he makes it his business to *scrub* before coming to the table. And without Mother having to remind him either. For the Wash-up Chart has taught him that there's a reason—a *good* reason—for clean hands. And it's made washing regularly seem like a jolly game.

Free help for mothers

Is there a Dick—or a Dorothy—in *your* home who doesn't see the "why" of clean hands—who thinks it just plain fussy of you to insist upon them? Then send for a Lifebuoy Wash-up Chart and watch the "soap rebellion" simply melt away.

Watch *health* improve, too. For Lifebuoy's rich, creamy, antiseptic lather removes *germs* as well as dirt. Thus it helps guard against 27 diseases which the Life Extension Institute says may be spread by germs our hands pick up.

Safeguards complexions, too

Lifebuoy leaves the skin satin-smooth, clear—radiant with healthy beauty. Keeps you safe from body odor, too. Its fresh, *extra-clean* scent—that vanishes as you rinse—tells you Lifebuoy *purifies*. Mail coupon below today for *free* Wash-up Chart and trial size cake of Lifebuoy for each of your children.

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HEALTH SOAP
for face, hands, bath

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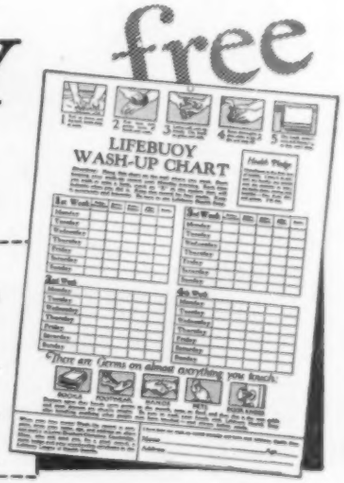

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ORIGINAL APPROVED
BABY SOUP
AND
STRAINED
VEGETABLES

14 FOODS IN GLASS

ACCEPTED AMERICAN MEDICAL ASSN.

The Badge of Health Foods
In Sealed Glass Jars
For Infant Feeding
TO SUPPLEMENT THE MILK DIET

Prescribed by over 5,000 Specialists—

Because they are scientifically prepared under surgical standards of cleanliness and supply the mineral salts needed to produce healthy bones and teeth.

Used daily by thousands of Mothers—

Because they cost less than if made at home and save a Mother at least 24 hours a week kitchen time and give her these extra hours to be out of doors with baby.

Because they are easily carried, keep indefinitely when sealed, are ready to use except for diluting and heating and so are equally convenient for feedings at home or traveling.

Because babies never refuse to take them.

Clapp's Baby Soup. An appetizing combination of Beef Juice, Vegetables and Cereals.

Clapp's Wheatheart Soup, a combination of Vegetables, Cereals, and the Wheat Germ which supplies Food Iron and VITAMINES B, A and E.

Clapp's Liver Soup. Calves' Liver and Vegetables for pale babies.

Clapp's Strained Vegetables

Spinach, Carrots, Asparagus, String Beans, Peas, Beets, Tomatoes, Prunes, Apricots and Applesauce.

Are all prepared from carefully selected materials, especially for growing babies and are immensely liked by them.

These are simply wholesome, healthful foods, packed for convenience and economy in 4 oz. glass jars.—Soups, also in 14 oz. jars.

Ask Your Doctor
and write us for your Dealer's name

In cities your dealer's name is listed in the classified telephone directory under Clapp's Baby Foods.

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BEHAVIOR PROBLEMS
A Psychological Service Without Geographical Limitations for All Children. Normal, Exceptional, Difficult, Nervous, Retarded, Etc.

HABIT TRAINING IN THE HOME
(Supervised by Psychiatric Case Workers—Visiting or Resident)

SELECTED GOVERNESSES, tutors, etc., under supervision. ADVICE ON SCHOOLS, vocational and recreational counsel. PERSONAL PROBLEMS of adults, adolescents and children. FAMILY READJUSTMENTS.

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for the child who must be temporarily or permanently removed from his own home; each home so established housing one child and one trained worker as mother-substitute.

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ULTRAVIOLET INCREASES VITAMIN D IN FOODS

That exposure of certain foods to ultraviolet light increases the content of vitamin D has been definitely shown by scientists. Dr. Alfred F. Hess of New York and Dr. Harry Steenbock of the University of Wisconsin, working independently, in 1924 found that foods irradiated with ultraviolet would prevent rickets.

More recent experiments have shown that ultraviolet light converts the solid alcohols in such foods as corn, coconuts, peanuts, oleomargarine and butter into vitamin D, the vitamin that prevents rickets. Other foods that are also altered by light treatment include wheat flour, cornmeal, oatmeal, milk, meat, egg yolk and orange juice.

Some foods cannot be treated successfully because certain enzymes that are essential for digestion are destroyed by the rays. Irradiation of cow's milk for eight seconds increases the vitamin content eight times, and reduces the bacteria 10 per cent, asserts John J. Rowland in the *Technology Review*. The vitamin content of eggs has been increased by the exposure of hens to ultraviolet light.

NEGROES HAVE HIGHER TUBERCULOSIS RATE

Negro children under 5 years are twice as susceptible to tuberculosis as white children. Between the ages of 5 and 9 they are four times as susceptible; the incidence is five times greater between the ages of 10 and 19, it was reported at the White House Conference.

As an EDUCATOR

—YOU undoubtedly are confronted now and then with problems of administration of a physical education program.

—YOU feel a need for more efficient health teaching in your school.

—YOU want the latest and best authentic methods in teaching and coaching.

—YOU would like new games at your disposal.

—YOU want to know what others are doing in the fields of health, physical education and recreation.

The Journal of
Health and Physical Education
answers these problems

How? Look at this list of articles picked at random from the pages of Health and Physical Education: Western Conference Football Strategy; Interpretive Rhythms in the Grades; Authentic Costumes for Folk Dances; Safeguarding the Heart in High School; School Safety Education; The Control of Ringworm; The Shower Bath.

Health and Physical Education is the official organ of the American Physical Education Association, published monthly, except July and August. If you are unacquainted with this publication send us your name and address. You will receive a sample copy by return mail. There is no obligation.

$2.00 Per Year

AMERICAN PHYSICAL EDUCATION ASSOCIATION
Box 362 Dept. B Ann Arbor, Mich.

SPEECH DEFECTS DELAY CHILD'S DEVELOPMENT

The child with a speech defect is unable to adjust himself to other children; he shrinks from association and has difficulty in taking his place in the world, asserts Dr. Smiley Blanton in an article on the speech of children in *Parents' Magazine*.

School surveys show that 20 per cent of the children between the ages of 2 and 5 have defects in their speech; 15 per cent of the children in secondary schools and 15 per cent of those entering universities have defective speech.

Speech defects may be from physical or nervous origin. There may be oral inactivity in cases in which the jaws, tongue or the palate are malformed so that they are incapable of making speech sounds. A child may lisp, which is really the substitution of consonant sounds and can be corrected by the instillation of good talking habits.

Deafness is sometimes the cause when a child has reached the age of 3 years without uttering a word.

Parents may help their child speak correctly as soon as he has reached the age of associating names with objects, which comes between 8 to 15 months. An adult should never use baby talk in speaking to a child; neither should one lay undue stress on pronounciation.

Babies very early are able to make the sounds of m, w, y, g, r, h, see, pat, father, pool and how. At about five months they reach the babble period when they make more sounds than are used in the English language. The sounds made at this age are similar to the ones used in primitive languages; they are imitative of every sound the baby hears, including other things besides speech.

The number of words in a child's vocabulary has been studied by Dr. Madorah E. Smith, whose conclusions correspond with other studies that have been made.

Age	Boys	Girls
2.....	304 words	743 words
3.....	822 "	920 "
4.....	1,603 "	1,576 "
5.....	2,181 "	2,058 "
6.....	2,996 "	2,064 "

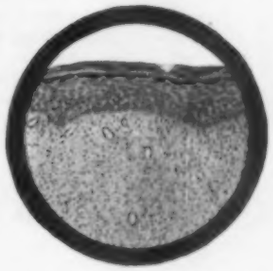
NEGRO HEALTH WEEK COMES IN APRIL

National Negro Health Week will be observed during the week of April 5. That week includes the birthday of Booker T. Washington, the Negro educator.

The strength of daylight in New York City is estimated to be cut 21.5 per cent by smoke.

You can't wear gloves on your Lips—

BUT they need protection just the same. The comparison, illustrated below, of the skin of lip and palm will show you just why. The protective granular layer is absent from the lip covering—science has not stressed that before, although Cleopatra may have known it, since she was the first to prepare and use lip pomade.



The skin of the lip

Note lack of granular cells between tissues, and thin outer covering.

Roger & Gallet Lip Pomade assures this necessary protection under any exposure to light, heat, cold or wind. Pure, colorless, pleasant, it has been used in America since 1883. Physicians advise it for chapped or fevered lips. It is especially advised for children—women find it a splendid protection foundation for colored lipsticks. Your druggist supplies a convenient liberal stock for a quarter.

The skin of the palm

This shows deep granular layer between tissues, and thick outer skin.

ROGER & GALLET *Lip Pomade* 25c

If any crack, spot or lump on your lips persists, see your physician — don't attempt to treat it yourself.

ROGER & GALLET, Dept. H.3, 1071 Sixth Ave., N. Y. C.

Kindly send me free of charge trial package of Roger & Gallet Lip Pomade with comparison of lip and palm.

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*Address*_____

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Apparatus with Recognized Merits

Exercise

EXERCISE and massage have been recognized for centuries as one of the greatest aids in the pursuit of health. Vibratone model "J" for the home is unique in that it furnishes both these important factors which are so necessary in order to keep physically fit, these busy days.

Vibratone is equipped with six applicators consisting of handle bar for any degree of exercise, two rubber massage cups for local use, one bakelite kneading ball for deep massage, and two belts for general body massage.

Massage

Vibratone is adjustable to all parts of the body. Really to appreciate what Vibratone does it is necessary to try it.

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THERE is usually an air of confidence and self-assurance about a woman who knows she is well-dressed.

But there are times when she has a feeling of doubt, and feels the need of protection.

Such protection is provided in the new Gauzets Sanitary Napkins; for they are made with a moisture-proof under layer which is positive protection for her clothing.

Also the edges and rounded corners are finished in a manner which prevents irritation and, therefore, ensures perfect comfort in use.

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Chums—For boys from 16 to 18 years.

For Girls

Margaret, the Doctor's Daughter—For girls from 12 to 14.

Life's Problems—For young women from 15 to 18.

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Safety Thumb Guards will safely and quickly cure your child of this bad habit.

Guards ingeniously constructed of one piece of German Silver Wire. No ends to loosen, to injure the face or eyes. *Used for fingers also.*

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Complete instructions with guard.

Price, $1.75 per pair, postage prepaid. State age of child when ordering guards. Satisfaction Guaranteed.

Patent Applied for

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Dept. H **New Haven, Conn.**

WHEN A CHILD SHOULD KNOW ABOUT SEX

What and when children should know regarding sex was outlined in a report on the school child at the White House Conference. The objectives for teaching in each age group, as abstracted by the *Journal of Social Hygiene,* follow:

Infancy (from 1 to 3 years).—Reproductive organs in good condition; a wholesome attitude toward all parts of the body; correct health habits in general, especially in regard to bowel and bladder elimination and a healthy attitude toward these functions; the habit of using a correct vocabulary for the bodily structures, functions and emotional states in scientific terms or in simpler clean terms for temporary use; correct knowledge of the origin of life so far as such knowledge may be called for by questions; observation of naked bodies as a matter of course in connection with bathing, play and the intimacies of family life.

(A) Childhood (preschool period, from 4 to 5 years).—Knowledge of one's own origin in connection with one's mother, and some knowledge of reproduction in plants and animals; a wholesome objective attitude toward sex and reproduction; some experience in the care and rearing of animal pets; an appreciative understanding of the meaning of family life, its advantages, the responsibilities and interrelations of its members; knowledge of the physical difference between boys and girls and between men and women; healthy habits with respect to physical and emotional life; a confidential safeguarding relationship with parents, especially in regard to sex and reproduction.

(B) Childhood (school period from 6 to 10 years).—Extension and fuller interpretation of objectives outlined for the preschool period; some elementary facts regarding the male and female functions in reproduction; wholesome and guided companionships with boys and girls; an attitude of sportsmanship in play with boys and girls.

Prepubertal period (from 10 to 13 years).—A wholesome and appreciative attitude toward sex in general, and a sense of significance and dignity of the child's own sex nature; correct habits of bodily care, including the sex organs; knowledge of reproduction and the function of each parent; an understanding of the developmental stages that are taking place in the body, and the approaching changes and an appreciation of their significance; a reassuring understanding of the physical and the psychic sex phenomena that manifest themselves and those that are to follow; a respectful, courteous attitude toward children of the opposite sex free from undue sex consciousness, and a definite appreciation of the value of wholesome comradeship and friends and the practice of securing them; increasing resources in creative ability such as play, games, athletics and hobbies; a fine appreciation of the home and family relationships and the beginnings of an idea of a home and family of one's own.

Adolescence (from 12 years to the early teens).—An adequate knowledge of sex and reproduction including the anatomy and physiology of the sex mechanism of men and women; an appreciative understanding of the rôle sex is playing in the development of the youth's entire personality, which includes knowledge of the hormone function of the sex glands; an appreciation of sex as a creative force in the individual for good or ill for the enrichment of life or for disintegration of personality and human misery, accordingly as this force is directed; reassuring understanding of the significance of the physiologic and psychologic sex phenomena that come into experience; freedom from unwholesome inhibitions and inner conflicts; reasonably effective emotional control; a philosophy and ethics of sex in harmony with sound character and social responsibility, such as will tend to insure successful mating and happy family life; a serious sense of social responsibility in all expressions of the mating instinct; gradual emotional independence from parents.

COLDS
fill handkerchiefs WITH GERMS

Laboratory tests show 240,000 germs in handkerchief used one time.

A handkerchief used during a cold is unfit to be used a second time!

Prevent self-infection
. . . provide Kleenex disposable handkerchiefs

RECENT laboratory tests show that the ordinary handkerchief may be a potent cause of the spread of colds through families — as well as a cause of constant self-infection of the user.

Handkerchiefs used during colds were found to contain an almost incredible number of disease germs. The continued use of a handkerchief, therefore, may cause colds to "hang on" indefinitely.

All danger is avoided by the use of Kleenex, the disposable tissue. Kleenex is used just once, then discarded.

This precaution during colds is especially necessary with children. Because the nasal passages are so small, inflammation is more serious, more likely to develop into pneumonia and other serious diseases.

In addition, Kleenex is so much more comfortable. The tissues are soft and soothing to tender little noses. Kleenex is even less expensive than laundering, and saves all worry about lost handkerchiefs.

Kleenex a household necessity

Kleenex has many other important uses. Beauty experts advise it for removing creams and cosmetics, to assure complete cleansing of the pores. Kleenex is available at any drug, dry goods or department store, in three sizes: 25 cents, 50 cents and $1.00. Prices are the same in Canada.

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When Winter-Weakened Bodies Need Rebuilding

THIS is the time of year when youngsters show most plainly the effects of winter ills. Now their bodies feel the effects of the long struggle against lowered resistance to disease caused by the scarcity of Vitamins A and D in their diet. Mothers know, and their doctors know how much an adequate supply of these important vitamins can help to keep their children in sturdy health all winter. Yet the benefits of these vitamins too often depend on the ability to force cod liver oil down rebellious little throats, for this is the best known source of these vital elements. Small wonder mothers often choose instead to run the risks of winter ills!

But now, after four years of research in the White Laboratories, a way has been found to separate the essential health-giving part of the oil from the nauseating portions. This useful part of the oil, containing the precious Vitamins A and D, has been concentrated and sealed in a tiny, palatable wafer known as White's Cod Liver Oil Concentrate.

You can give them the benefits of COD LIVER OIL CONCENTRATED in CANDY-LIKE WAFERS

The concentrate is subjected to the most rigid "biological assays," and is then so effectively sealed in the pleasant tasting wafers that tests of the product manufactured more than two years ago show that even after this period the concentrate has lost none of its original value.

Each wafer represents at least 250 units of the indispensable Vitamin A and 100 units of Vitamin D. They should be used under the same conditions for which the best grade of cod liver oil is taken—to promote growth, to increase resistance to respiratory and other infections, and as an antirachitic.

Your doctor will approve your use of White's Cod Liver Oil Concentrate to obtain the important vitamins of cod liver oil. You will welcome this as an end to the constant struggle against the nauseous taste of the whole oil, and now you can be sure your children are receiving adequate amounts of the vitamins that are so necessary to help them resist illness and build strong, healthy bodies.

White's Cod Liver Oil
CONCENTRATE
ORIGINALLY COD-LIV-X

BIOLOGICALLY STANDARDIZED FOR POTENCY AND STABILITY